THE RELATIONSHIP OF RESILIENCE, SELF-COMPASSION, AND SOCIAL SUPPORT TO PSYCHOLOGICAL WELL-BEING IN NCAA FEMALE ATHLETES DURING COVID-19

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When COVID-19 hit the United States in spring of 2020, collegiate student-athletes, who had sport seasons canceled and were forced to move off-campus, were uniquely and significantly impacted. Psychosocial resources, such as social support, self-compassion, and resilience, may have been used to help athletes cope with the stress of COVID-19. I used structural equation modeling to analyze the relationship of resilience, self-compassion, and social support to collegiate female athlete's (n = 3,924) psychological well-being at the beginning of the COVID-19 pandemic. Collectively, the more supported, self-compassionate, and resilient the athletes reported being, the less psychological distress they said they were experiencing (resilience to psychological distress (β = -.215, p < .001), self-compassion to psychological distress (β = -.533, p < .001), and social support to psychological distress (β = -.187, p < .001)). Further, self-compassion and social support were related indirectly (and inversely) to psychological distress, to the extent that they contributed to the athletes perceiving themselves as more resilient (Self Compassion → Resilience → Psychological Distress: β = -.106, 90% CI [-.148, -.069]; Social Support → Resilience Psychological Distress: β = -.065, 90% CI [-.099, -.041]). The total effect of social support, which included the direct and indirect effects, also was significant (β = -.253, 90% CI -.307, -.196]), as was the total effect of self-compassion (β = -.639, 90% CI [-.679, -.597]). Although I collected my data in the context of this pandemic, the supported relationships have application beyond it and can guide how sports medicine professionals intervene with athletes and their general mental health concerns.

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THE RELATIONSHIP OF RESILIENCE, SELF-COMPASSION, AND SOCIAL SUPPORT TO PSYCHOLOGICAL WELL-BEING IN NCAA FEMALE ATHLETES DURING COVID-19

Introduction

The COVID-19 pandemic hit university and college athletic departments in early March 2020, impacting hundreds of thousands of student athletes. Universities and colleges closed their doors, moving classes online and sending students, including athletes, away from campuses to live with family or friends. Further, the NCAA, in an unprecedented move, cancelled all remaining sport seasons. College students, including athletes, who were already at a high risk for mental health concerns (Liu et al, 2018; Stambulova, Schinke, Lavallee, & Wyllemann, 2020), were faced with a stressful global health pandemic that was likely to exacerbate their concerns. Thus, understanding the psychological distress that student-athletes might experience during the initial phase of this pandemic, and examining how psychosocial resources might prove protective to them, was needed.

Although many psychosocial resources exist, social support, resilience, and self-compassion have been found to buffer, and protect, against psychological distress (e.g., Hoessini & Besharat, 2010; Fletcher & Sarkar, 2014; Fogaco, 2019; Malinauska, 2010; Neff, 2004; Mosewch et al., 2011; Neff & McGeehee, 2010; Wagstaff et al., 2017), and thus may have been particularly salient in how the student athletes responded psychologically. Given the closing of universities/colleges and the disbanding of athletic teams, as well as the social distancing, and even quarantining, that occurred, collegiate athletes may have had their social support networks disrupted and been put into positions of social isolation. Further, the pandemic was ongoing and evolving, with new scientific and medical information being released almost daily that informed

public health policies and affected everyone's lives. Thus, athletes continued to have to cope with the realities of the pandemic long after universities and colleges closed and they were sent home. Athletes who were high in resilience, self-compassion, and maintained their support may have been able to cope more effectively by being kind to themselves, staying focused and positive, and reappraising the as a challenged that they could handle.

Crisis in Context Theory

Crisis in context theory (CCT; Myer & Moore, 2006) is a grounded ecological model that provides a framework for understanding, and studying, the impact of COVID-19 on student athletes. CCT is based on three premises. First, individuals and systems experience the impact of a crisis in layers, which are dependent on (a) physical proximity to the disaster and (b) reactions to the event. Generally speaking, the closer the person is to the event, the more forceful is impact. In addition, reactions to the event are shaped by previous experiences, which may impact the perceptions and appraisals of what is currently unfolding. Second, to understand the impact of crises, the reciprocal effects that occur between the affected individuals and systems must be considered, including both the interactions among primary and secondary relationships, and the degree of change triggered by the event. In other words, individuals' reactions to crises are influenced to a degree by how others around them are responding (Hoff & McNutt,1995). Third, time directly influences individuals' responses to crises, and the initial stages of a crisis are when most experience psychological distress (Scrignaro, Barni, & Magrin, 2010). With these three premises, CCT provides a framework for understanding and investigating the impact of COVID-19 (as a global crisis) on the psychological distress of collegiate athletes. Across the U.S., all collegiate student athletes were impacted by COVID-19; ranging from changes in their learning modalities, to having to relocate to new housing, to abandoning their sport seasons (including

relationships with teammates and coaches), to having to socially isolate or quarantine, to having to put their athletic identities on hold, unsure of when they might return to campus and their lives as athletes, to name just a few. In the midst of these changes, student-athletes were embedded within social groups, such as their families or friends, and sport systems, such as their teams and their athletic departments, and how these responded to the pandemic may have influenced the degree to which the athletes were affected psychologically by all the stressors they were experiencing.

Psychosocial Resources

Social support has been one of the most studied psychosocial resource, with over 800 scientific papers attesting to its protective effects on mental health (e.g., Cohen & McKay, 2020; Taylor, 2011). Social support is conceptualized as the perceived availability and adequacy of support emanating from different sources, such as friends and family (Laksmita, Chung, Liao, Haase, & Chang, 2020; Tonsing, Zimet, & Tse, 2012; Vassilev, Rogers, Blickem, Brooks, Kapadia, & Kennedy, 2013). In the sport context, researchers have suggested that even just the perception that support is available is enough to enhance athletes' well-being (e.g., decrease anxiety and depression, increase optimism, confidence, and hopefulness; Chu, Saucier, & Hafner, 2010 Jowett 2005; Rees & Hardy 2000; Reinboth & Duda 2006). For example, in a study of male (n = 176) and female (n = 253) college athletes, DeFreese and Smith (2014) found that throughout a sport season, social support was associated with less burnout, emotional exhaustion, and physical exhaustion, and higher levels of life satisfaction. Similar results were found by Hagiware et al. (2017), who examined the relationship between social support and psychological distress (i.e., depression and sport helplessness) in college athletes (48.5% female). They found that social support was inversely related to depression and sport

helplessness for the female, but not male, athletes. Finally, Yang et al. (2010), in a sample of injured collegiate athletes (35% female), found that perceptions of social support significantly contributed to lower levels of depression, and higher levels of rehabilitation adherence. Although the male athletes reported more sources of social support, female athletes were more satisfied with the support received, relying most on friends and family. Collectively, these studies suggest that social support may be particularly salient for female athletes, supporting its importance in understanding how they may cope and respond during stressful events.

Two principal explanations have been offered to explain social support's role in coping and in decreasing psychological distress. The first explanation is known as the "buffering hypothesis" and reflects the belief that the advantages of social support are primarily experienced through distress reduction. In this sense, the availability of social support after a crisis or setback allows individuals to reappraise the event in a less threatening way. In contrast, the "main-effects hypothesis" posits that social support exerts a direct (positive) effect on the athlete's psychological response (Bianco & Elklund, 2001, Clement & Shannon, 2011, Taylor, 2011). Whether direct or indirect, social support is thought to alleviate distress through the provision of emotional caring, needed information, and/or tangible assistance. Emotional care helps individuals directly manage the distress they are experiencing from the stressor. For example, if an athlete was experiencing distress associated with their sport season canceled, providing validation, encouragement, and hope would be forms of emotional care. Informational and tangible support, however, help to supplement and maintain problem-focused forms of coping, such as directly solving the problem that is causing the stress. For example, if an athlete was stressed by having to move out of their residence hall room due to the pandemic, then their

athletic department assisting them in finding off-campus housing would be solving the problem and reducing the experienced stress.

Self-compassion, which originated from the loving kindness meditation in Buddhism (Peng & Shen, 2012), is another psychosocial resource that has been found to have many positive health impacts (MacBeth & Gumley, 2012; Mosewich, Crocker, Kowalski, & DeLongis, 2013; Wilson, Bennet, Mosewich, Faulker, & Crocker, 2019). Self-compassion is comprised of three main components: (a) self-kindness – being kind and understanding toward oneself in instances of pain or failure rather than being harshly self-critical, (b) common humanity – perceiving one's experiences as part of the larger human experience rather than seeing them as separating and isolating, and (c) mindfulness – holding painful thoughts and feelings in balanced awareness rather than over-identifying with them (Neff, 2003b). Self-compassion has been found to be inversely related to depression, anxiety, stress, rumination, body shame, and fear of failure in samples of undergraduate female athletes and female non-athletes (Daye, Webb & Jafari, 2014; Mosewich, Crocker, Kowalski, & DeLongis. Yarnell, Stafford, Neff, Reilly, Knox, & Mullarkey, 2015; Raes, 2010). Even so, compared to men, non-athlete undergraduate women reported significantly lower levels of self-compassion and mindfulness, and significantly higher levels of isolation, over-identification, and self-judgment (Neff, 2003a, 2003b). Similarly, female athletes tend to be more critical of themselves and to ruminate on their negative feelings more than male athletes (Krane, Ross, Sullivan Barak, Lucas-Carr, & Robinson, 2014; Warner & Dixon, 2015). These lower levels of compassion among women, athlete and nonathlete, also have been associated with higher rates of depression (Mosewich et al., 2011). Taken together, these studies clarify that men and women report different levels of self-compassion, yet it may be an essential, but underutilized, resource by women in coping with stressful situations.

Self-compassion may be particularly important when athletes experience uncontrollable events, such as has occurred in conjunction with the COVID-19 pandemic (Leary et al., 2007). In a study of non-athlete adults (208 women, 129 men), Li et al. (2020) found that self-compassion was significantly and positively related to their life satisfaction when they were quarantined during COVID-19. Consistent with the conceptualization of self-compassion, athletes with higher levels would be expected to know that they are not alone in their experiences related to the COVID-19 pandemic, thus helping them to generate more care and emotional warmth towards themselves (Neff, 2003; Soysa & Wilcomb, 2015). Further, self-compassionate athletes would be expected to accept instances of social isolation by maintaining a degree of mindful psychological distance from their emotions so as to not become overinvolved or defensive in the face of this ongoing stressors. Rather than ruminate, self-compassionate athletes would assume responsibility for their coping, allowing them to keep the situation in perspective, and stay present and kind with themselves (Leary et al., 2007).

Fletcher and Sarkar (2012) defined resilience as "the role of mental processes and behavior in promoting personal assets and protecting an individual from the potential negative effect of stressors (p. 16)." This definition focuses on individuals' abilities to maintain, or get back to, normal levels of functioning rather than the restoration or enhancement of functioning (see Bonanno, 2004). In addition to being a necessary component for sustained sport success (e.g., Gonzalez, Detling, & Gali, 2016), resilience has been associated with athletes' psychological well-being (Arnold & Flecther, 2012; Fletcher et al, 2006; Fletcher et al., 2012). For example, in a sample of 139 college athletes (96 men, 43 women, M_{age} = 23 years), Hosseini and Besharat (2010) found that resilience was positively associated with sport achievement and psychological well-being, and inversely associated with depression and anxiety. Further, high

resilient athletes have the ability to effectively regulate negative emotional arousal in the midst of stress (Ong et al., 2009). Personality resources, including locus of control, self-efficacy, self-esteem and emotional stability, which are seen in resilient and hardy athletes, help them cope by altering how they cognitively appraise situations, adopting challenge, vs. threat, appraisals (Luria & Torjman, 2009; Mancini & Bonano, 2009; Wagstaff, Sarkar, Davidson, & Fletcher, 2016).

As psychosocial resources, social support, self-compassion, and resilience have empirical support for directly lessening the psychological distress individuals might otherwise experience when living through a crisis, such as the COVID pandemic. However, the effects of social support also may be indirect, such as through increases in resilience. That is, athletes who feel supported by others may also respond in a more resilient manner during times of stress, which would lead to higher levels of well-being (Fletcher & Sarkar, 2012). For example, Fletcher and Sarkar (2012) found that Olympic champions believed that they were protected from the pressures of elite sport because they had high-quality social support available to them, and that the higher levels of support contributed to them being more resilient. Going further, in a study of 2,080 (1,227 men, 853 women) survivors from the Wenchuan Earthquake, Xu and Ou (2014) determined resilience was the most significant variable affecting the quality of life of survivors, and their resilience was elevated by their perceived social support. Finally, in a cross-sectional study of adults conducted approximately 6 months after September 11, 2001, Bonanno et al. (2006, 2007) found that social support uniquely predicted the adults' levels of resilience.

Social support also has been found to affect levels of self-compassion, and thus may have indirect effects through that pathway as well (Hall, Row, Wuensch, & Godley, 2013; Neff, 2003b; Jeon, Lee, & Kwon, 2016). For example, Hall et al. (2013) examined 182 college students (141 women) and determined that social support reduced levels of isolation as measured

by the Self-Compassion Scale (Neff,2003b). In addition, Neff and colleagues (2003b; Neff & McGeehee, 2010) found that a self-compassionate attitude may be developed and influenced by relationships with important others, whereas Jeon, Lee, and Kwon (2016) determined that self-compassion partially mediated the relationship between social support and subjective well-being among male and female Korean athletes. These results support the claim that individuals' attitudes toward themselves are influenced by the evaluations of important others (Germer, 2009), suggesting that social support from important others plays a role in adopting a self-compassionate attitude. When important others understand individuals' flaws and difficulties and look upon them with warmth and acceptance, individuals may learn to treat themselves similarly.

Research also supports another frame through which to conceptualize the relationships of social support, self-compassion, and resilience and psychological distress. It may be that social support and self-compassion are related (see Rabon, Hirsch, Kanuika, Sirois, & Brooks, 2019), just not directionally, and that self-compassion also may contribute to athletes' levels of resilience. Wilson et al. (2019) utilized qualitative interviews with female athletes to better understand the interrelationship of self-compassion and mental toughness, which is a construct similar to resilience. Their analysis revealed three overarching themes, including: (a) mental toughness as critical for coping with sport-related adversity; (b) self-compassion as critical for coping with sport-related adversity, and (c) self-compassion and mental toughness as compatible with one another. Specifically, whereas athletes reported that mental toughness was important for difficult physical pursuits and necessary to maintain focus and to persevere despite difficulty, self-compassion was equally important for self-care, re-appraisal, and moving forward after difficulty. Furthermore, self-compassion was reported as critical to the development of mental toughness. Through self-compassion, athletes were able to understand, reappraise, and move

forward after facing adversity. Wilson et al (2019) reported that the self-compassion and resilience created a balanced perspective between the relentless, evaluative, and self-critical pursuit of elite athletic achievement and relating to oneself as the object of care without self-condemnation or over-identification in the face of sport-related difficulty.

Purpose

Within the context of CCT, I explored the relationship of resilience, self-compassion, and social support to athletes' psychological distress (i.e., depression and anxiety) during the beginning phase of the COVID-19 pandemic. Given that female athletes report higher levels of depression (Carter & Rudd, 2005) and anxiety (Correia & Rosado, 2019; Rice et al., 2019) relative to male athletes, and that women report lower levels of self-compassion than men (Yarnel et al., 2015), I focused on the experiences of collegiate women athletes. Further, as stated by Casteldelli-Maia et al (2019), female athletes must navigate the lack of acceptance that may exist within sport environments, unequal training opportunities, limited financial support, sexualization, sexuality stereotypes, and societal and personal expectations around traditional gender roles, all of which likely negatively impact their mental health. Thus, focusing on female athletes to understand their psychological reactions to this global pandemic and the psychosocial resources that may be helping them cope is particularly needed.

Based within existing research (Sarkar & Fletcher, 2014; Hall, Row, Wuensch, & Godley, 2013; Neff, 2003b; Jeon, Lee, & Kwon, 2016; Xu & Ou (2014), I tested two apriori models. In Model 1, I hypothesized that (a) social support, resilience, and self-compassion each would be significantly and directly related to lower levels of psychological distress, and (b) social support also would be indirectly related to lower psychological distress through higher levels of resilience and self-compassion. In Model 2, I hypothesized that (a) social support,

resilience, and self-compassion each would be directly related to lower levels of psychological distress, and (b) both social support and self-compassion also would be indirectly related to psychological distress through higher levels of resilience.

Method

Participants

NCAA collegiate women athletes (N = 3,924; M_{age} = 20.02 years, SD = 1.28 years) who were drawn from 50 U.S. states participated. Athletes were evenly distributed across year in school, primarily identified as White (n = 3186; 81.2%), and represented 24 different sports. See Table 1 for detailed description of the sample demographics.

Instruments

Demographics

Athletes provided information regarding their age, race, gender (e.g., woman, transgender, nonbinary, etc.), year in school, NCAA Division level (I, II, or III), and sport played.

Perceived Stress Scale

The 10-item Perceived Stress Scale (PSS-10; Cohen, Kamarck, & Mermelstein,1983) assesses the degree to which participants perceive situations in their life as stressful. For each item, such as "How often have you felt difficulties were piling up so high that you could not overcome them?", athletes responded from 1 (*never*) to 5 (*very often)* based on their experiences over the prior two weeks Total score is the sum of the items; higher scores indicate more stress. Cohen & Williamson (1991) reported moderate concurrent validity with the amount of stress experienced during an average week (r = .39, $p < .001$) and the frequency of stressful life events

within the past year (r = .32, p < .001); and adequate convergent validity as evidence by expected negative associations with perceived health status (r = -.22, p < .001), and positive associations with psychosomatic symptoms (rs = .28 to .34, p < .001) and with health service utilization (r = .22, p <.001). Mitchell et al. (2008) reported that the PSS-10 correlated significantly with the Posttraumatic Stress Arousal Symptom Scale (r = .54, p <.01; Ursano, Kao, & Fullerton, 1992), providing additional evidence of the scale's validity. Similar validity findings have been observed across cultures as well (e.g., Ramirez & Hernandez, 2007; Reis, Hino, & Rodriguez-Anex, 2010; Remoer, 2006). In the current sample, Cronbach's alpha was .81.

Depressive Symptomatology

The two-item Patient Health Questionnaire (Kroenke, Spitzer, & Williams, 2003), which is derived from the original PHQ-9 (Spitzer, Kroenke, & Williams, 1999), assesses depressive symptomatology. For each item, such as "little interest or pleasure in doing things," athletes responded from 0 (*not at* all) to 3 (*nearly every day*) based on how they had been feeling during the prior two weeks. Total score is the sum of the items and can range from 0 (*no symptoms*) to 6 (*high level of symptoms*). The PHQ-2 was found to predict depression at an equivalent rate as structured psychiatric interviews with a positive predictive ratio of 2.92 (Kroenke, et al., 2003) Kroenke et al. (2003) further reported a strong association between increasing PHQ-2 depression scores and worsening on both of the mental health subscales (i.e., Mental Health Perceptions and Role Limitations Caused by Emotion Difficulties) of the Short Form Health Survey (scale; (Sara-Baglima et al., 2007), with effect size of depression severity and decline in functional status ranging from .5 to .8. In the current sample, Cronbach's alpha was .75.

Resilience

The six-item Brief Resilience Scale (BRS; Smith, Dalen, Wiggins, Tooley, Christopher,

& Bernard, 2008) assesses the ability to bounce back from stressful situations. For each item, such as "I have a hard time making it through stressful events," athletes responded from 1 (*strongly disagree)* to 5 (*strongly agree).* Total score is the sum of the items; higher scores indicate greater resilience. Across a series of four studies, Smith et al. (2008) provided data concerning the BRS's validity. First, they found that the BRS was significantly correlated with the Connor -Davidson Resilience Scale (Connor & Davidson, 2003; $r = .59$, $p < .001$) and the Ego Resiliency Scale (Block & Kremen, 1996; $r = .51$, $p < .001$). Second, they found that the BRS was negatively correlated with measures of anxiety ($r = -.456$, depression ($r = -.49$), pessimism ($r = -.56$), negative affect ($r = -.53$), and perceived stress ($r = -.71$, and was positively correlated with optimism ($r = .63$), and social support ($r = .27$). In the current sample, Cronbach's alpha was .72.

Social Support

Eight items from the 12-item Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) were used to assess support from friends and support from family; I did not use the four items that assessed support from significant others because there likely would be significant variability in the sample regarding having this type of support. For each item, such as "I get the emotional help and support I need from my family," athletes responded from 1 (*very strongly disagree)* to 7 (*very strongly agree*) based on the support the athletes perceived over the prior two weeks. Total score for each dimension – family (4 items) and friends (4 items) – is the mean of those items; higher scores indicate more support. In a sample of 136 female and 139 male university undergraduates, Zimet et al. (1988) established concurrent validity by an inverse correlation with depression ($r = -.25$) and anxiety ($r = -.18$) on the Hopkins Symptom Checklist; in a sample of non-athlete adults, Pushkarev et al

(2020) demonstrated that the MSPSS subscales were negatively correlated with the Hospital Anxiety Scale (r = -.12 to -.20, p <.001) and the Depression Scale (.r = .14 to -.24, p <.001). In the current sample, Cronbach's alpha was .94 for the Friends dimension and .85 for the Family dimension.

Self Compassion

The 12-item Self-Compassion Scale – Short form (SCS-SF), which was derived from the original 26-item Self-Compassion Scale (Neff, 2003a), assesses self-compassion across the dimensions of self-kindness, common humanity and mindfulness (Raes, Pommier, Neff, & Van Gucht, 2011). Athletes rated each item, such a, "When I fail at something important to me, I become consumed by feelings of inadequacy," from 1 (*almost never*) to 5 (*almost always*). Total score is the sum of the items; higher scores indicate higher levels of self-compassion. Confirmatory factor analysis on the SCS–SF supported the same six-factor structure as found in the long form, as well as a single higher-order factor of self-compassion. The SCS-SF has a .97 correlation with the original scale (Raes et al., 2011), and the SCS-SF has been found to predict well-being across numerous measures (i.e., Beck Depression Inventory, r = -.51; Speilberger Trait Anxiety Inventory, r = -.65 Satisfaction with Life, r = .45; Neff, 2003b, Neff, Long, Knox, Davidson, Kuchar, Costigan, & Breines, 2017, Neff, 2020). In the current sample, Cronbach's alpha was .81.

Procedure

Data collection for this study occurred from mid-April 2020 to mid-May 2020. Through NCAA Division I, II, and II athletic departments, the survey was disseminated to the student-athletes. Each participating athletic department sent their student-athletes information about the study through their preferred modes of communication (e.g., email, Teamworks). Each message

contained a brief description of the study (examination of student-athletes' psychological well-being during COVID-19), the voluntary nature of the study, the time commitment (10-15 minutes), and the link to the survey, which was hosted on Qualtrics. Once on the website, student-athletes provided consent and then completed the survey. At the end, they were given the opportunity to enter themselves into a random drawing for one of four $200 Amazon egift cards. Because there was no way to monitor the number of messages that were sent to student-athletes across all the participating athletic departments nor determine the number of student athletes who may have opened the message, we cannot determine a response rate.

Data Analysis

First, we examined the data in regards to missingness. Regarding missingness of the data, at the item but not respondent level, there were less than 9% missing data. When examined based on the athletes' gender and their race, data were determined to be missing completely at random (Little's MCAR test was nonsignificant for women athletes, $p = .176$, and across all racial/ethnic subgroups, $p = .138$ -.958). To address the item level missingness, we followed best practices, conducting 100 multiple imputations, which were informed by principal component analysis, in R package PcAux (Howard et al., 2015; Lang & Little, 2017). From the 100 multiple imputations, we created a single, aggregated, grand mean dataset that subsequently was used in analyses. Data passed all normality screening (e.g., skewness, kurtosis, outliers).

To create the validation and cross-validation samples, I used SPSS to split the original sample into two random and approximately equal groups: Sample A (n = 1,958) and Sample B (n = 1,937; See Table 1 for details on the demographics of each Sample). I used a two-step process in my SEM analysis. In Step 1, I established the measurement model, including its reliability and validity, across Samples A and B. In Step 2, I tested the two Structural models,

first in Sample A. Based on relative fit, I then made the decision to proceed with testing the better fitting model in Sample B. I determined model fit based on Hu and Bentler's (1999) criteria of CFI and TLI >.95, RMSEA .06 - .08, and SRMR <.08. As suggested by Chen, Curran, Bollen, Kirby, & Paxton (2008), best practice for evaluating the RMSEA involves not only considering the point estimate, but also the point estimate and its associated confidence intervals. As indicated by Hu & Bentler (1999), although .06 represents a widely accepted benchmark, an RMSEA point estimate of up to .08 represents reasonable error of approximation with large samples. Therefore, considering the large sample size in both Sample A and Sample B, the model would be considered an acceptable fit if RMSEA confidence intervals contain values lower than .08.

I proposed two apriori structural models. In Model 1, I hypothesized that Social Support, Resilience, and Self Compassion would all be directly related to Psychological Distress. In addition to these direct effects, I hypothesized that Social Support's relationship to lower Psychological Distress would be indirect through higher levels of Resilience and more Self-Compassion. In Model 2, I again hypothesized that Social Support, Resilience, and Self Compassion would all be directly related to Psychological Distress. In addition to these direct effects, I hypothesized that both Social Support and Self-Compassion's relationship to lower Psychological Distress would be indirect through higher levels of Resilience. I expected that Social Support and Self-Compassion would be correlated.

All analyses regarding demographics, as well as computation of total scores and correlation/covariance matrices were conducted in SPSS version 26. For the SEM analysis, I used version 27 of IBM SPSS Amos (Arbuckle, 2014), and followed a two-step process. First, I established the measurement model via confirmatory factor analysis. I used the maximum

likelihood estimation procedure for both the measurement and structural models (Kline, 2005). Second, I tested each structural model (Model 1 and Model 2) and obtained both direct and indirect effects in each model. Consistent with past research (e.g., Yli-Pilipari et al., 2013), 90% confidence internals (CIs) for each indirect effect were obtained based on 10,000 bootstraps; indirect effects were considered significant if CIs did not contain 0.

Results

Sample A and Sample B Correlations

Tables 2 and 3 contain the correlations, means, and standard deviations for the measured variables included in the subsequent SEM analyses for the Total Sample, Validation Sample A, and Cross-Validation Sample B.

Measurement Model

Validation Sample

In my initial test of the measurement model, I hypothesized that the Resilience LV would be represented by the two factors identified by Kyriazos et al. 2018), the Social Support LV would be represented by the family and friend factors from the MPSS, the Self-Compassion LV would be represented by the two factors of the SCS-SF (Self Compassion and Self Coldness; see Brenner et al., 2017), and the Psychological Distress LV would be represented by the PHQ-2 (Depression*)* and the PSS (Stress*)*. For the measurement model, all LVs were allowed to correlate; all correlations were significant and ranged from .38 to .90. For this hypothesized measurement model, the overall fit of the model was poor (CFI = .910, TLI =.867, RMSEA = .116, 90% CI [.106, .126] SRMR = .135). There were two issues with the measurement model. First, one of the Resilience factors there was a low loading; I examined the inter-item

correlations and alpha of that factor and determined that one-item should be dropped to create a two-item factor (three item alpha = .45; final two item alpha = .76).

Second, although the factor loadings of the measured variables for the Self-Compassion LV were significant, the Composite Reliability (CR = .546; suggested cutoff = .70; Hair et al., 2014) and average variance extracted (AVE =.377; suggested cutoff = .50; Hair et al., 2010) were low, suggesting poor internal consistency and poor construct validity, respectively. To address this problem, I split the SCS-SF into three parcels using the "item-to-construct-balance" parceling technique (Little, Cunningham, Shahar, & Widaman, 2002). With this change in how I represented the Self-Compassion LV, as well as the change for the Resilience LV, the overall fit of the measurement model was improved substantively (CFI = .933, TLI = .886, RMSEA = .100, 90% CI [.092, .108]; SRMR = .0478) as was the reliability and validity of the Self-Compassion LV (CR = .84; AVE = .64). When I first looked at the measurement model I engaged in a specification search following guidelines by Landis, Edwards, and Cortina (2009). Within this model, based on the modification indices and consistent with theory (Kyriazos et al., 2018; Zimmet et al., 1988), I made one additional change, allowing two error terms to correlate. This change resulted in a significant improvement in model fit; $\Delta X^2 = 118.5$, $df = 1$, $p < .001$; CFI = .952, TLI = .914, RMSEA = ..087, 90% CI [.078, .095]; SRMR = .0402. Despite the RMSEA being above the suggested cutoff of .08 (Hu % Bentler, 1999), the 90% confidence intervals contain RMSEA values below .08. We therefore decided the measurement model with Sample A was satisfactory, and thus proceeded to test it in the cross-validation Sample B, to confirm this newly specified model. See Table 4 for the factor loadings of the measured variables on each LV.

Cross-Validation Sample B

I then tested the final measurement model from Validation Sample A in the Cross-Validation Sample B. Replicating results in Sample B would allow me to speaking more definitely about the relationship between the factors and latent variables. Correlations among the LVs ranged from .38 to .70 and all factor loadings were significant, in the expected direction, and on the hypothesized LVs (see Table 4). The overall fit of the measurement model again was good (see Table 5).

Structural Model

Validation Sample A

I used the established measurement model to test both Model 1 (see Figure 2) and Model 2 (see Figure 3). For Model 1, although all hypothesized pathways were significant and in the expected directions, the overall fit was poor (see Table 5). For Model 2, the overall fit of the model was good (see Table 5) and represented a significant improvement in fit over Model 1 (Δ AIC = 216.623; Δ X^2 = 218.6, *df* = 1, p <.001). All hypothesized pathways within Model 2 were significant and in the expected direction.

Examination of the direct pathways in Model 2 revealed that, as hypothesized, all variables were related significantly to lower levels of Psychological Distress: Resilience (β = -.215, p < .001), Self-Compassion (β = -.533, p < .001), and Social Support (β = -.187, p < .001). Further, all indirect effects were significant: Self Compassion → Resilience → Psychological Distress: β = -.105, 90% CI [-.148, -.069]; Social Support → Resilience → Psychological Distress: β = -.065, 90% CI [-.099, -.041]. The total effect of social support, which included the direct and indirect effects, also was significant (β = -.253, 90% CI -.307, -.196]), as was the total effect of self-compassion (β = -.639, 90% CI [-.679, -.597]). In the final model, social support

and self-compassion explained 44% of the variance in the athletes' resilience; all three variables, accounting for both direct and indirect effects, explained 61% of the variance in their psychological distress.

Cross-Validation Sample B.

I retested Model 2; again, the overall fit of the model was good (see Table 5). All pathways within the model were significant and in the hypothesized directions. As expected, all three variables were directly and significantly related to lower levels of Psychological Distress: Resilience ($\beta = -.35$, $p < .001$), Self-Compassion ($\beta = -.48$, $p < .001$), and Social Support ($\beta = -.12$, $p < .001$). Further, all indirect effects were significant: Self Compassion → Resilience → Psychological Distress: $\beta = -.161$, 90% CI [-.207, -.122]; Social Support → Resilience Psychological Distress: $\beta = -.140$, 90% CI [-.190, -.100]. The total effect of social support, which included the direct and indirect effects, was significant ($\beta = -.258$. 90% CI [-.306, -.206]), as was the total effect of self-compassion ($\beta = -.638$. 90% CI [-.679, -.600]). In the final model, social support and self-compassion explained 50% of the variance in the athletes' resilience; all three variables, accounting for both direct and indirect effects, explained 65% of the variance in their psychological distress.

Discussion

I examined the potentially attenuating relationships of resilience, self-compassion, and social support to athletes' psychological distress (i.e., depression and stress) at the beginning of the COVID-19 pandemic. Using SEM, I tested two a priori models that represented different, but theoretically and empirically supported (Bonanno et al., 2006; Jeon, Lee, & Kwon, 2016; Neff & McGeehee, 2010; Wilson et al. 2019; Xu & Ou, 2014) sets of direct and indirect effects among the latent variables. In both the initial validation sample, and in a second, cross-validation

sample, I found that Model 2 provided a significantly better fit to the data than Model 1. Across the two samples, I made no changes to the pathways hypothesized in the original Model 2. Thus, I focus on this model and the relationships it represents among the latent variables.

In Model 2, as hypothesized, social support, self-compassion, and resilience were directly, and inversely, related to the athletes' psychological distress, such that the more supported, self-compassionate, and resilient the athletes reported being, the less psychological distress they experienced. Further, self-compassion and social support were related indirectly (and inversely) to psychological distress, to the extent that they contributed to the athletes perceiving themselves as more resilient. Overall, social support and self-compassion explained 44% to 50% of the variance in the athletes' resilience; all three variables, accounting for both direct and indirect effects, explained 61% to 65% of the variance in their psychological distress. That all of the psychosocial variables contributed significantly to understanding the athletes' levels of psychological distress was expected given that each one is conceptually and theoretically distinct (Laksmita, et al., 2020; Neff, 2003a,2003b; Fletcher & Sarkar, 2012) and thus would attenuate the athletes' distress through different mechanisms.

The inverse relationship of social support to the athletes' psychological distress is consistent with past research (Clement & Shannon, 2011; Bruner, McLaren, Swann, Schweickle, Miller, Benson, & Vella, 2020; Hassell, Sabiston, & Bloom, 2010; Kristiansen & Roberts, 2010; Malinauska, 2010; Malinauskas & Malinauskas, 2018; Rees, Mitchell, Evans, & Hardy, 2010; Thompson, 2010; Yang, Peek-Asa, Lowe, Heiden, & Foster, 2010). For example, in a mixed-sport sample of college athletes from across all three NCAA Divisions, Hagiwara et al. (2017) found a significant inverse relationship between perceptions of received social support from teammates and both depression and sport helplessness; this relationship held for the female, but

not the male, athletes, but not for male college-athletes. Similarly, in two studies involving injured athletes (Study 1, $N = 319$, 19% women; Study 2 $N = 302$, 36% women) from over 33 sports, Mitchell et al. (2014) found that the perceived availability of social support significantly impacted the athletes' responses to their injuries, including lower levels of restlessness, isolation, and feeling cheated that they were missing out on their sports. Social support is a well-documented, general psychosocial resource (Cohen & McKay, 2020), and it appears to have been salient for the athletes as they coped with the realities of the COVID-19 pandemic. Within the United States, COVID-19 caused a complete transformation within higher education (e.g., shut down of campuses, move to virtual learning platforms) and the unprecedented cancellation of collegiate sports. Athletes from across the U.S. were dismissed from campuses – and from their teams and their primary supports – and for many, put in positions of having to socially distance (at best) and quarantine (at worst) within their new environments. Carvalho et al. (2020) argued that such social distancing can increase feelings of isolation, depression, and anxiety, which may be particularly salient, and problematic, for young adult women (e.g. Pieh, Budimir, & Probst. 2020). The women collegiate athletes who reported being supported by family and friends had a sense of connection to others who they believed were there to help them, both emotionally and tangibly. Such support, connection, and assistance may have helped the feel more able to cope, beginning with how they appraised the pandemic and its ongoing effects. For example, the supported athletes may have been more likely to see the disruptions in their lives, from education to sport to living arrangements to physical health, as challenges that they could handle, rather than events that were overwhelming and lead to feelings of distress.

The athletes' self-compassion also was associated with lower levels of distress during the beginning part of the pandemic; it also produced the strongest effect in relation to psychological

distress of the three psychosocial varialbes. Similarly, in studies of non-athlete adult men and women, researchers found that self-compassion was related significantly to lower levels of anxiety, depression, and fear during COVID-19 (Beato et at., 2021; Boehning, 2021; Gutierrez et al., 2021). For example, among a sample of 110 undergraduate non-athletes (67% women) more reported self-compassion was associated with lower levels of depression and anxiety in all the students (Boehning et al., 2021). Among elite and non-elite male and female athletes, self-compassion, which was defined as being kind towards oneself even in the midst of struggles and setbacks, was related to lower levels of depression and anxiety (e.g., Mohebi & Zarei, 2019; Walton, Baranoff, Gilbert, & Kirby, 2020). The significant role of self-compassion, relative to social support and resilience, in reducing psychological distress indicates that self-compassion was a particularly important psychosocial resource during COVID-19. The components of self-compassion -- self-kindness, common humanity, and mindfulness – likely helped the athletes in my study be accepting and kind with themselves, be present and nonjudgmental with their thoughts and feelings, and recognize that they were not alone in their struggles, all of which can facilitate feelings of connection and belonging and more effective coping with the effects of the pandemic (Deniz, 2021; Kotera, Ozaki, Miyatake, Tsunetoshu, Nishikawa, & Tanimoto, 2020).

Finally, athletes who perceived themselves as resilient, that is who believe they can bounce back or recover from stressful events, reported lower levels of psychological distress, which is consistent with past research (Arnold & Fletcher, 2012; de Melo & Noce, 2020; Fletcher & Sarkar, 2012, 2013; Hosseini & Besharat, 2010; Ramazani & Hejazi, 2020; Wagstaff, Hings, Larner, & Fletcher, 2017). For example, within a sample of healthcare providers (N = 3,042, M_{age} = 39 years old; 64.6% women) that was drawn during the COVID-19 pandemic, the women reported higher levels of anxiety and depression compared to men (Barzilay et al., 2020);

however, for both the men and women, higher levels of resilience were associated with reduced rates of anxiety and depression. Thus, during the COVID-19 pandemic, where new challenges were emerging almost daily, the student-athletes were having to cope with an ever-changing landscape related to the direct health effects of the virus (e.g., would they become infected and ill), the ripple effects of the virus (e.g., were their families experiencing financial stress due to job loss), and the ongoing uncertainty about collegiate sports for the 2020-2021 year. Athletes who believed that they recover quickly from stressful events, that is perceive themselves to be resilient, likely appraised all that was unfolding around them as a challenge (as opposed to a threat) that could be handled, which likely helped them remain optimistic, motivated, focused, and confident, and less prone to feelings of depression and stress.

In addition to their direct relationships to psychological distress, in both the validation sample and the cross-validation sample, social support and self-compassion had indirect effects through the athletes' level of resilience. The athletes who felt supported by family and friends and who engendered the components of self-compassion (e.g., kind, mindful) also reported being more resilient; which in turn, was related to lower levels of psychological distress. In cross-sectional and longitudinal studies, with samples of male and female athletes and nonathletes, researchers have shown that many different psychological variables can promote resilience, including optimism (Galatzer-Levy & Bonano, 2014; Sumer, Karanci, Berument, & Gunes, 2005) and social support (Bonanno, Galea, Bucciarello, & Vlahov, 2007; Lia, Tiwari, Beaulieu, Self-Brown, & Kelley, 2015; Mandavia & Bonanno, 2019). In their model of athlete resilience, Fletcher and Sarkar (2012, 2013) identified social support as a key variable that would influence, positively, athletes' primary appraisals of stressful events. For example, in their interviews of Olympic champions (8 men, 4 women), the athletes described how social support helped them

feel loved and cared for and bolstered their sense of competence, which they connected to an increased ability to cope with Olympic stressors (Fletcher & Sarkar, 2012). In regards to the connection between self-compassion and resilience, a recent study by Bluth, Mullarkey, and Lathren (2018) provides perspective. In a sample of adolescents (65% girls), those who were more self-compassionate also were more resilient; these adolescents used positive coping strategies when faced with stress (e.g., engaging in positive thinking) and had an easier time "bouncing back" from challenges. Adolescents who were lower in self-compassion tended to ruminate when faced with stressful situations, which was a less effective coping strategy that kept them stuck and less likely to believe they could move forward in coping. Individuals who are self-compassionate also are more mindful, which facilitates them remaining grounded and centered in challenging situations. Thus, they are better able to respond constructively, such as with self-kindness, rather than ruminating or reacting impulsively (Roeser & Pinela, 2014).

Although the present study had many strengths, including the large, diverse sample and the timing of when data were collected in relation to the onset of the COVID-19 pandemic, limitations still existed that warrant discussion. First, although acceptable (and practical) given my nationally-based sample, my reliance on self-report assessments introduces the potential of social desirability bias, which could have manifested in under, or over, reporting of distress and psychosocial resources. Second, although my measure of social support assessed what was received from family and friends, given the uniqueness of this pandemic (e.g., need for social distancing, quarantining), my quantitative approach did not allow for an exploration of what aspects of social support were most beneficial to the student athletes. A mixed-method approach, which included qualitative interviews of some athletes about their experiences of social support, would have complimented, and added depth and nuance, to my findings. Third, although the

sample size was large and diverse in terms of sports played and geographic region of the athletes' schools, the racial/ethnic make-up did not match that of the overall population of collegiate athletes, though paralleled recent sampling done by the NCAA (NCAA, 2021). Thus, generalizability is limited to similar groups of collegiate women athletes. Finally, the cross-sectional methodology does not allow for consideration of changes over time. My findings, though, are consistent with theory, research, and my a priori hypotheses. To understand how, over time, the psychosocial resources might contribute to athletes experiencing lower levels of distress, longitudinal designs are needed. If the use of such designs corroborate my cross-sectional findings, the results would provide solid evidence for interventions that promote the development of social support, self-compassion, and resilience among college student athletes.

Although my results were obtained in the context of athletes' experiences of an unprecedented global health pandemic, the reality is that even in the absence of such an event, collegiate athletes have been experiencing increasing levels of mental health concerns, including depression, anxiety, body dissatisfaction, etc. (Moore, 2017; Wolanin, Hong, Marks, Panchoo, & Gross, 2018). Thus, my findings have practical implications for sports medicine professionals who work with collegiate, and possibly all, athletes to help them alleviate such distress. Fortunately, research has demonstrated that each psychosocial resource can be improved through structured interventions (Albertson, Kegalaers & Wylleman, 2019; Fogaco, 2020; Neff, & Dill-Shackleford, 2014; Shapira & Mongrain, 2010), which could be applied within collegiate athletic departments. For example, Fogaco (2019) designed a combined performance and mental health intervention that taught mental skills to, and increased social support of, college student-athletes. Male (n = 43) and female (n = 45) athletes from five NCAA Division I teams participated; two teams (*n* = 28; 61% women) were in the intervention and three teams (*n* = 60; 47% women) were

in the control group. Prior to the intervention, athletes were assessed on their use of athletic coping skills, using the ACSI-28 (Smith, Schutz, Smoll, & Ptacek, 1995), as well as measures of depression, anxiety, and quality of life. The intervention consisted of five sessions for all the athletes within each team, four additional sessions for the team captains, and two sessions for the coaches (who did not participate in the team sessions). At the end of the five-week intervention, the intervention group athletes had significantly higher ACSI-28 scores and lower levels anxiety compared to the control athletes; no significant differences existed on depression and quality of life. These findings suggest that protocols designed to enhance psychosocial resources can be effective at reducing psychological distress.

Other researchers have found evidence for the positive impact of self-compassion on depression, self-worth, body satisfaction, and happiness (Albertson et al., 2014; Shapira & Mongrain, 2010; Voelker et al., 2019; 2021). For example, in a sample of non-athlete female (n = 817) and male (n = 164) adults (M_{age} = 34 years) Shapira and Mongrain (2010) examined the impact of a self-compassionate letter-writing intervention that involved writing a paragraph about a recent difficult life situation in kind, understanding way to oneself, in the way a good friend would do. After seven days of letter writing, they found that this activity not only decreased depression for three months, but it also helped increase happiness levels for six months. Among female athletes, Voelker and colleagues (Voelker, Petrie, Huang, & Chandran, 2019; Voelker, Petrie, Fairhurst, & Casanave, 2020have found support for the effectiveness of Bodies in Motion, a mindful self-compassion-based program, in improving female athletes' satisfaction with themselves overall, and their bodies and appearance, specifically. Finally, in terms of developing resilience, Kegelaers and Wylleman (2019) interviewed elite athletes, their coaches, and sport psychologists to determine how coaches foster resilience. Thematic analysis

revealed that both proactive strategies (i.e., fostering motivation, mental preparation, and promoting life balance) and reactive strategies (i.e., evaluating setbacks, promoting a positive mindset, and implementing lessons) were all related to athletes' level of resilience. Collectively, these studies Fogaco, 2019; Kegelaers and Wylleman, 2019, Voelker et al., 2019) show that not only do psychosocial resources improve athletes' psychological well-being, but they can be improved through programming that can be efficiently delivered within athletes' environments.

In my study, through a cross-sectional methodology using two large samples, I determined that social support, self-compassion and resilience were important in understanding how college women athletes were coping with the COVID-19 pandemic, specifically in relation to experiencing less psychological distress. Although I collected my data in the context of this pandemic, the supported relationships have application beyond it and can guide how sports medicine professionals intervene with athletes and their general mental health concerns. Given that social support, self-compassion, and resilience have all been shown to improve with training, cultivating these resources could provide collegiate athletes with psychological tools and resources that help them manage the ongoing stress that is endemic to college sports and thus improve their psychological health and well-being. Taken together, social support, self-compassion, and resilience form a unique tripartite set of psychological resources that directly, and interactively, contribute to athletes' psychological well-being.

Table 1

Demographics

		Total Sample		Sample A		Sample B	
		n	%	*n*	%	*n*	%
NCAA Division	Division I	2,848	72.6	1,423	72.7	1,438	74.2
	Division II	506	12.9	257	13.1	235	12.1
	Division III	571	14.5	278	14.2	264	13.6
Year in School	Freshman	994	25.3	467	23.9	480	24.8
	Sophomore	1,061	27	538	27.5	520	26.8
	Junior	1,046	26.6	525	26.8	525	27.1
	Senior	709	18.1	372	19	353	18.2
	5th Year	107	2.7	52	2.7	56	2.9
	6th Year	8	0.2	4	0.2	3	0.2
Race/Ethnicity	Caucasian/White	3,186	81.2	1588	81.1	1541	79.6
	African American/Black	355	9	176	9	195	10.1
	Native American/Alaska Native	18	0.5	11	0.6	11	0.6
	Asian /Asian American/Pacific Islander	171	4.4	89	4.5	89	4.6
	Prefer not to disclose	37	0.9	12	0.6	17	0.9
	Prefer to self-identify	39	1	24	1.2	18	0.9
	Mixed	93	2.4	43	2.2	53	2.7
	Middle Eastern/Arab	3	0.1	0	0	1	0.1
	Hispanic/Latinx	366	9.3	185	9.4	169	8.7

(table continues)

		Total Sample		Sample A		Sample B	
		n	%	*n*	%	*n*	%
Sport Played	Basketball	270	6.9	134	6.8	137	7.1
	Beach volleyball	42	1.1	21	1.1	26	1.3
	Bowling	25	0.6	8	0.4	12	0.6
	Cross country	218	5.6	119	6.1	97	5
	Fencing	14	0.4	7	0.4	9	0.5
	Field hockey	124	3.2	65	3.3	56	2.9
	Golf	112	2.9	55	2.8	55	2.8
	Gymnastics	135	3.4	68	3.5	77	4
	Ice hockey	34	0.9	11	0.6	17	0.9
	Lacrosse	195	5	93	4.7	95	4.9
	Rifle	12	0.3	4	0.2	9	0.5
	Rowing	189	4.8	90	4.6	83	4.3
	Skiing	9	0.2	7	0.4	5	0.3
	Soccer	529	13.5	268	13.7	257	13.3
	Softball	435	11.1	199	10.2	220	11.5
	Swimming and diving	381	9.7	186	9.5	190	9.8
	Tennis	159	4.1	79	4	80	4.1
	Track and field	444	11.3	225	11.5	225	11.6
	Volleyball	336	8.6	174	8.9	158	8.2
	Water Polo	35	0.9	19	1	13	0.7
	Equestrian	42	1.1	22	1.1	24	1.2
	Triathlon	1	0.1	0	0	1	0.1
	Cheer	97	2.5	62	3.2	52	2.7
	Other	25	0.6	11	0.6	13	0.7

(table continues)

		Total Sample		Sample A		Sample B	
		n	%	*n*	%	*n*	%
School Location	Alabama	35	0.9	20	1	18	0.9
	Alaska	4	0.1	1	0.1	3	0.2
	Arizona	51	1.3	30	1.5	26	1.3
	Arkansas	29	0.7	15	0.8	13	0.7
	California	363	9.2	196	10	180	9.3
	Colorado	84	2.1	42	2.1	32	1.7
	Connecticut	40	1	26	1.3	17	0.9
	Delaware	14	0.4	7	0.4	4	0.2
	District of Columbia	4	0.1	4	0.2	3	0.2
	Florida	100	2.5	56	2.9	51	2.6
	Georgia	60	1.5	33	1.7	26	1.3
	Hawaii	14	0.4	7	0.4	7	0.4
	Idaho	10	0.3	7	0.4	4	0.2
	Illinois	190	4.8	94	4.8	88	4.5
	Indiana	93	2.4	52	2.7	46	2.4
	Iowa	45	1.1	25	1.3	26	1.3
	Kansas	23	0.6	11	0.6	17	0.9
	Kentucky	85	2.2	46	2.3	41	2.1
	Louisiana	32	0.8	20	1	16	0.8
	Maine	9	0.2	3	0.2	5	0.3
	Maryland	70	1.8	30	1.5	38	2
	Massachusetts	88	2.2	41	2.1	50	2.6
	Michigan	76	1.9	39	2	35	1.8

(table continues)

	Total Sample		Sample A		Sample B	
	n	%	*n*	%	*n*	%
Minnesota	55	1.4	22	1.1	31	1.6
Mississippi	9	0.2	3	0.2	6	0.3
Missouri	60	1.5	32	1.6	24	1.2
Montana	4	0.1	1	0.1	2	0.1
Nebraska	25	0.6	14	0.7	11	0.6
Nevada	14	0.4	6	0.3	9	0.5
New Hampshire	36	0.9	22	1.1	16	0.8
New Jersey	116	3	50	2.6	66	3.4
New Mexico	12	0.3	9	0.5	3	0.2
New York	105	2.7	42	2.1	47	2.4
North Carolina	90	2.3	39	2	45	2.3
North Dakota	1	0	1	0.1	1	0.1
Ohio	63	1.6	32	1.6	32	1.7
Oklahoma	38	1	18	0.9	18	0.9
Oregon	50	1.3	29	1.5	23	1.2
Pennsylvania	169	4.3	77	3.9	82	4.2
Puerto Rico	3	0.1	3	0.2	3	0.2
Rhode Island	11	0.3	6	0.3	6	0.3
South Carolina	24	0.6	9	0.5	11	0.6
South Dakota	5	0.1	5	0.3	1	0.1
Tennessee	35	0.9	14	0.7	18	0.9
Texas	306	7.8	143	7.3	153	7.9
Utah	24	0.6	13	0.7	8	0.4
Vermont	12	0.3	5	0.3	4	0.2

(table continues)

	Total Sample		Sample A		Sample B	
	n	%	*n*	%	*n*	%
Virginia	143	3.6	57	2.9	69	3.6
Washington	65	1.7	36	1.8	33	1.7
West Virginia	12	0.3	5	0.3	6	0.3
Wisconsin	102	2.6	56	2.9	52	2.7
Wyoming	2	0.1	1	0.1	1	0.1
Outside of US	1	0	0	0	0	0

Table 2

*Correlation Matrix of Measured Variables, Means, and Standard Deviations in Total Sample (*N = *3,924)*

Variable	1	2	3	4	5	6	7	8	9
Social Support Family	1								
Social Support Friends	0.55	1							
Resilience_1	0.07	0.12	1						
Resilience_2	0.37	0.26	0.47	1					
SelfCompassion_1	0.23	0.21	0.35	0.3	1				
SelfCompassion_2	0.35	0.25	0.28	0.38	0.64	1			
SelfCompassion_3	0.17	0.19	0.42	0.33	0.68	0.57	1		
Depression	-0.36	-0.23	-0.25	-0.32	-0.38	-0.40	-0.36	1	
Anxiety	-0.29	-0.24	-0.42	-0.37	-0.51	-0.42	-0.51	0.55	1
Mean	5.07	5.65	3.44	3.42	2.94	3.02	3.18	1.90	19.67
SD	1.69	1.16	0.80	0.88	0.79	0.81	0.77	1.65	6.11

Note: Anxiety can range from 1, no anxiety, to 5, high anxiety. Depression can range from 0, no symptoms, to 6, high level of symptoms. Resilience 1 and 2 can range from 1, low resilience, to 5, high resilience. Social support can range from 1, low support, to 7, very high support. Self-compassion 1, 2, and 3 can range from 1, low self compassion, to 5, high self compassion. All correlations are significant at $p < .01$.

Table 3

*Correlations Matrix of Measured Variables, Means, and Standard Deviations in Sample A (*n = *1,958) and Sample B (*n = *1,937)*

Variable	1	2	3	4	5	6	7	8	9	Mean	SD
Depression	1	0.54	-0.36	-0.23	0.26	-0.34	-0.40	-0.40	-0.36	1.91	1.66
Anxiety	0.53	1	-0.29	-0.24	-0.42	-0.39	-0.50	-0.42	-0.51	19.70	6.07
Social Support Family	-0.36	-0.27	1	0.56	0.04	0.39	0.23	0.36	0.17	5.05	1.71
Social Support Friends	-0.24	-0.22	0.56	1	0.13	0.27	0.20	0.25	0.17	5.67	1.14
Resilience_1	-0.21	-0.38	0.05	0.11	1	0.46	0.35	0.25	0.42	3.41	0.80
Resilience_2	-0.29	-0.33	0.33	0.25	0.45	1	0.31	0.39	0.33	3.38	0.89
SelfCompassion_1	-0.38	-0.49	0.23	0.18	0.32	0.29	1	0.64	0.69	2.94	0.79
SelfCompassion_2	-0.40	-0.43	0.33	0.23	0.27	0.38	0.65	1	0.57	3.01	0.81
SelfCompassion_3	-0.34	-0.49	0.17	0.17	0.4	0.32	0.67	0.58	1	3.12	0.78
Mean	1.90	19.72	5.05	5.65	3.45	3.45	2.93	3.02	3.15		
SD	1.61	6.00	1.7	1.17	0.77	0.87	0.79	0.83	0.77		

Note: Correlations for Sample A are below the diagonal, and correlations for Sample B are above the diagonal. can range from 1, no anxiety, to 5, high anxiety. Depression can range from 0, no symptoms, to 6, high level of symptoms. Resilience 1 and 2 can range from 1, low resilience, to 5, high resilience. Social support can range from 1, low support, to 7, very high support. Self-compassion 1, 2, and 3 can range from 1, low self compassion, to 5, high self compassion. Correlations above .07 or below -*.21* are significant at $p < .01$. Correlations between .05 and .07 are significant at $p < .05$. Anxiety

Table 4

Standardized Factor Loadings from Measurement Model

Latent Variable	Observed Variable	Sample A	Sample B
Resilience	Resilience 1	.65	.64
	Resilience 2	.71	.72
Social Support	Social Support -Family	.88	.90
	Social Support - Friends	.62	.59
Self Compassion	Self Compassion 1	.84	.85
	Self Compassion 2	.76	.74
	Self Compassion 3	.79	.80
Psychological Distress	Depression	.67	.67
	Anxiety	.79	.80

Note: All factor loadings were significant at $p < .001$.

Table 5

Fit Indices for Models

Model	X^2	*df*	CFI	TLI	RMSEA, 90% CI	SRMR
Measurement Model Sample A	313.9	20	.952	.914	.087, [.078, .095]	.0402
Measurement Model Sample B	371.8	20	.946	.903	.095, [.087, .104]	.0446
Structural Model 1 Sample A	532.5	21	.917	.858	.112, [.103, .120]	.0837
Structural Model 2 Sample A	313.9	20	.952	.914	.087, [.078, .095]	.0402
Structural Model 2 Sample B	371.8	20	.946	.903	.095 [.085, .101]	.0446

Note: X^2 = Chi square goodness of fit statistics; *df* = degrees of freedom; *CFI* = Comparative Fit Index; *TLI* = Tucker Lewis Index; *RMSEA* = Root-mean-square error of approximation; *SRMR* = Standardized root mean square residual

Figure 1

Proposed Model 1

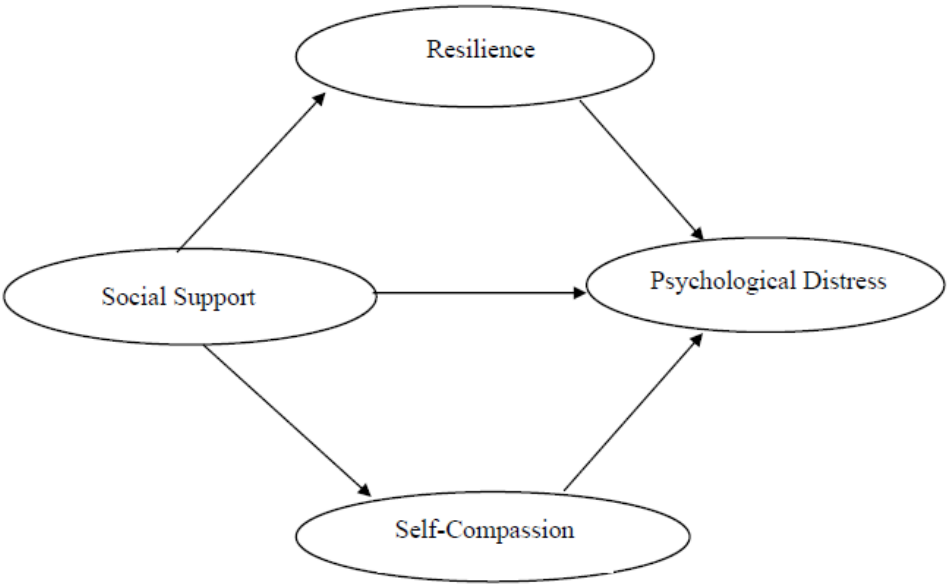


Figure 2

Proposed Model 2

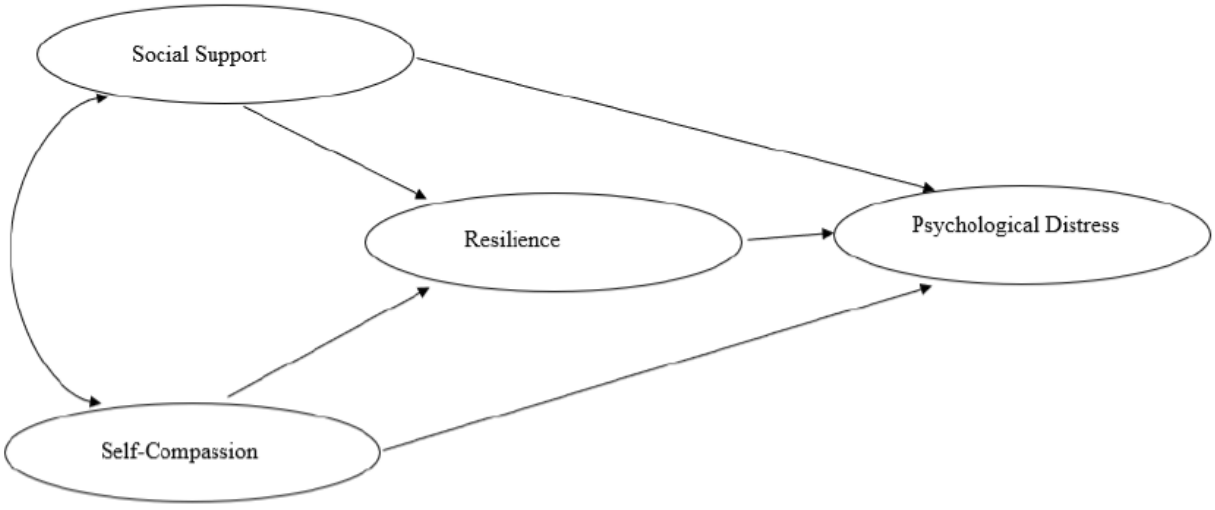
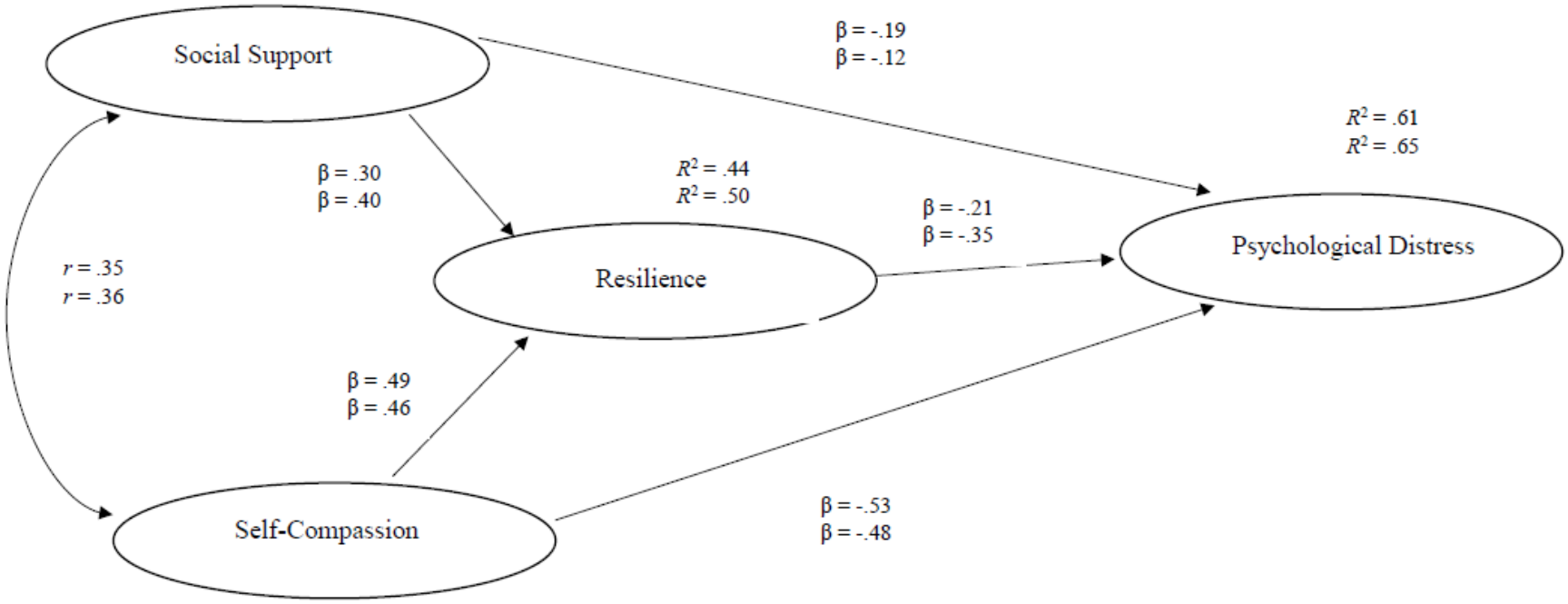


Figure 3

Structural Model 2 with betas and R^2 values



Note: The top numbers represent Sample A, and the bottom numbers represent Sample B.
In Sample A, the following total and indirect effects were significant:

Total Effect Social Support →Psychological Distress: β = -.253, 90% CI -.307, -.196]
Total Effect Self Compassion → Psychological Distress: β = -.639, 90% CI [-.679, -.597]
Indirect Effect Self Compassion → Resilience → Psychological Distress: β = -.106, 90% CI] [[-.148, -.069]
Indirect Effect Social Support → Resilience Psychological Distress: : β = -.065, 90% CI[-.099, -.041]

In Sample B, the following total and indirect effects were significant:

Total Effect Social Support →Psychological Distress: β = -.258. 90% CI [-.306, -.206]
Total Effect Self-Compassion →Psychological Distress: β = -.638. 90% CI [-.679, -.600]
Indirect Effect Self Compassion → Resilience → Psychological Distress: β = -.161, 90% CI [-.207, -.122]
Indirect Effect Social Support → Resilience Psychological Distress: β = -.140, 90% CI [-.190, -.100]

APPENDIX

REVIEW OF THE LITERATURE

Crisis

Crisis in context theory (CCT; Myer & Moore, 2006) is a grounded ecological model based on literature in the field of crisis intervention. Unlike other models of how individuals respond during crises (Violanti, Paton, & Dunning, 2000), CCT goes beyond the traditional individualistic focus of crisis intervention to view the effects of a crisis within the framework of a contextual model. CCT does not diminish the importance of the individual, but rather provides an ecological perspective that allows the appreciation of an individual in crisis. CCT is based on three premises. The first premise of CCT is that individuals and systems experience the impact of a crisis in layers. The layers are dependent on two elements: (a) physical proximity to the disaster (i.e., physical distance), and (b) reactions that are moderated by the perception and the meaning attributed to the event. The idea of layers in a crisis is supported throughout crisis literature (Hutchins & Wang, 2008; Van der Veer, 1998; Veal, 2003), in addition to Bronfenbrenner's (1986) ecological model, in which in accounted for both individuals who are at the center of his theory and various systems that surround the individual. CCT adapts this idea, modifying it from concentric circles, with individuals being at the center, to layers, with individual and systems being alongside, above, and below each other. Although the experience of crisis is unique for each person and system, understanding the impact of a crisis involves considerations of all layers. The layers in the CCT model can be understood as tiers that are determined by the setting of the crisis. Either the Individual or the System is identified as the client. The setting of a crisis is identified as the venue of the crisis event. For example, if the crisis event takes place in a hospital, the hospital is the setting and is denoted by System. The Individual could be any person affected by the crisis event. Making this distinction allows the differentiation of individual and systemic reactions; this idea is important because, to some

degree, the reactions of individuals are independent of the system; likewise, the system's reactions are in part independent from the individual. In the case of COVID-19, $System_1$ could be considered almost the entirety of earth, given the worldwide effects of the pandemic. With this in mind it is easy to see how reactions from different systems and subsystems (e.g., federal governments, local governments, universities, athletic directors) are interrelated yet independent from the reaction of individuals (e.g., collegiate student-athletes).

The second premise of CCT is that an understanding of the impact of crises takes into account that a reciprocal effect occurs among individuals and systems affected by the event. Understanding the reciprocal effect involves recognition of two elements: (a) the interactions among the primary and secondary relationships, and (b) the degree of change triggered by the event. Primary and secondary relationships (Dyregrov, 2002) can be understood in respect to the directness or indirectness of the interaction. Direct interactions in which no intervening component (i.e., individual or system) mediates that connection are primary relationships. Relationships that are mediated by at least one component are secondary or indirect interactions. For example, one of the many impacts of COVID-19 was that universities and colleges closed their campuses to inperson learning, moving to a virtual, distance model. Further, for college student-athletes, the NCAA canceled championships, leaving many sport seasons unfinished as student athletes left campuses along with nonathletes. Student-athletes who were forced to move home due to these decisions are an example of a direct interaction; the families of that student-athlete who were forced to finance remote learning devices is an example of an indirect interaction. The interactions are reciprocal, with the individual influencing the system and each system having an effect on the individual. For example, college students choosing to wear face coverings and social distance may influence the degree to which colleges and universities offer

in-person classes during the COVID-19 pandemic. As another example, the age and health of student athlete's family members may influence that athlete's willingness to partake in sport practice, where being around teammates may put their family members at risk. According to CCT, overlooking interactions among the components results in a failure to fully comprehend the impact of a crisis. All relationships, to varying degrees, influence the overall impact of a crisis on any component in the model. One possibility is that interactions can be supportive and help lessen the impact of the crisis (Hoff & McNutt,1995). In these situations, support may involve tangible resources, but support may also include emotional support (Myer, 2001). Given the unparalleled, widespread, and longstanding impact of COVID-19, researchers might examine the extent to which provided support assisted individuals in weathering the stress of this pandemic.

Another factor included in the second premise of CCT is the degree of change in the typical level of and ability of individuals and systems to function. The level of disruption that the crisis caused to both the short- and long-term functioning must also be considered when determining the impact of the crisis (Brewin, 2001). Examples of such changes may be the alteration of daily routines, or changes in economic stability. For collegiate student athletes, the COVID-19 pandemic led to the cancellation of sport, the closing of college and university campus and housing (which many were dependent on for food), and altered the manner in which classes were delivered and experienced. Collegiate student-athletes faced a unique and exacerbated impact of COVID-19.

The third and final premise of CCT is that time directly influences the impact of crises. Two elements of time are (a) the amount of time that has passed since the event, and (b) special occasions, such as anniversary dates and holidays following the event. According to CCT, and again supported by Bronfenbrenner (1995) and crisis intervention research (Brewin, 2001), the

impact of an event often is not singular, but rather ongoing, exerting its influence over time. For the COVID-19 pandemic, the initial, acute phase, when colleges/universities shut down, when governments issued stay at home orders, and when scientists were trying to understand the disease and make empirically-based recommendations on how to prevent transmission and treat those who were infected caused significant distress (Daly & Robinson, 2021). Everyone, including student-athletes, was affected during this phase. Examining the initial stages of coping is important, as the way individuals respond to crisis is related to later levels of psychological well-being (Scrignaro, Barni, & Magrin, 2010).

Considered together, the three premises of CCT provide a powerful tool for understanding the impact of crises on individuals. When crisis happens, individuals and systems are effected, and this effect depends on factors including proximity to the crisis, the reciprocal interaction between individuals and systems impacted by the event, the degree of change triggered by the event, and time elapsed since the event. Collegiate student athletes were all exposed to the impact of COVID-19; they experienced direct and indirect impacts of COVID-19 beyond that of their non-athlete peers; and, when forced to leave campus, abandoned their sport season, and their athletic identities, unsure of when they might return to campus and their lives as athletes. In the midst of these changes, student athletes' psychological resources may have come into play, assisting them in how they coped and managed, and determining the degree to which they may have experienced psychological distress in relation to the pandemic. Social support, resilience, and self-compassion are three psychosocial resources that may have been at play during this crisis (Fletcher & Sarkar, 2014; Malinauskas, 2010; Neff, 2004; Neff & McGeehee, 2010).

Psychosocial Resources

Psychologists have long studied individual differences in psychosocial resources, including psychological traits and social relationships, and their contributions to psychological well-being (e.g, Antonovosky, 1979, Hobfoll, 1989, Taylor, 1983). Psychosocial resources exert beneficial effects on mental health outcomes via affective/emotional routes, active approach-oriented coping, neural activation of brain regions implicated in stress and its regulation, and neuroendocrine and immunologic functioning (Cohen, Doyle, Turner, Alper, & Skoner, 2003; Daly, Delaney, Doran, Harmon, & MacLachlan, 2010; D'Argembeu, Stawarcyzk, Majerus, Collette, Van der Linden, & Feyers, 2009; Friedman, Hayney, Love, Singer, & Ryff, 2007; Midei & Matthews, 2009; Solberg, Evans, & Segerstrom, 2009; Tayor, 2011; Taylor, Burklund, Eisenberger, Lehman, Hilmert, & Lieberman. 2008). One such factor, social support, has been among the most studied, with over 800 studies attesting to its protective effects on mental health (House, Landis, & Umberson, 1988; Taylor, 2011; Uchino, 2009). Social support is defined as the perception or experience that one is loved and cared for by others, esteemed and valued, and part of a social network of mutual assistance and obligations (Wills, 1986). Social support may impact stress by providing information about resources, by providing tangible assistance such as food and shelter, or by providing emotional support such as warmth ad reassurance. Additional psychosocial resources include individual variables, such as resilience and self-compassion. Self-compassion (Neff, 2003b), entails being kinder and more supportive toward oneself, greater recognition of the shared human experience, and mindful awareness of personal suffering. As a result of self-compassion, individuals are thought to be less critical, spend less time ruminating, and feel more connected to others (Neff, 2003b). Resilience is defined as the role of mental processes and behavior in promoting personal assets and protecting an individual from the

potential negative effects of stress (Fletcher & Sarkar, 2012). Resilience generally refers to the ability of individuals to maintain normal levels of functioning during stressful events. Although social support, self-compassion, and resilience individually impact well-being, understanding the interaction of these three variables may provide greater insight into why they impact psychological well-being.

Social Support

The attention to the role of social integration in health and well-being began as early as 1897 with Durkheim's (1938; 1897/1951) study linking suicide rates to decreased societal ties. As a result of increasing industrialization and urbanization in the 1920s, attention was drawn to the negative effects of disruption of social networks and the loss of social integration (McKenzie, 1926; Park & Burgess, 1926; Thomas & Znaniecki, 1920). The concept of social support began to receive major attention in the 1970s, principally through the work of Antonovsky (1974; 1979), Cobb (1976); Kaplan, Cassael, and Gore (1977), and Weiss (1974) as they began to examine factors that could ameliorate the effects of negative life events. As research on social support continued, it became clear that social support was directly related to the reported severity of psychological and physical symptoms and/or acted as a buffer between stressful events and physical symptoms (Andrews, Tennant, Hewson, & Vaillant, 1978; Barrera, 1981; Brandt & Weinert, 1981; Gore, 1978; Lin, Simeone, Ensel, & Kuo, 1979; Monroe, Imhoff, Wise, & Harris, 1983; Procidano & Heller, 1983; Sarason, Levine, Basham, & Sarason, 1983; Schaefer, Coyne, & Lazarus, 1981; Wilcox, 1981).

One question researchers tried to understand is what constitutes social support. Although early researchers agreed that social support was helpful, there was less consensus on what precisely defined social support. For example, Shumaker and Brownell (1984) characterized

social support as “an exchange of resources between at least two individuals perceived by the provider or the recipient to be intended to enhance the well-being of the recipient” (p. 13), whereas Lin et al. (1979) defined social support as “perceived or actual instrumental and/or expressive provisions provided by the community, social networks, and confiding partners (p. 18).” Tardy (1985) further broke down social support into five dimensions, with clear distinctions in direction (support can be given and/or received), disposition (availability vs utilization of support resources), description of support vs evaluation of satisfaction with support, content (e.g. form of support), and network (what social system or systems provide the support). Taken together, social support is currently conceptualized as the perceived availability and adequacy of support from multiple sources, such as friends and family (Laksmita, Chung, Liao, Haase, & Chang, 2020; Tonsing, Zimet, & Tse, 2012; Vassilev, Rogers, Blickem, Brooks, Kapadia, & Kennedy, 2013).

As mentioned previously, the question of how social support operates has been considered. Some important hypotheses and dimensions with respect to this issue have been explored, including: (a) direct effect versus buffering, (b) the nature of the support, and (c) the focus of the curative effect of support. In terms of the first issue, social support has been conceptualized, and researched, as having both a direct and an indirect effect. A direct effect implies that social support makes a direct contribution to well-being. Conversely, an indirect effect implies that the benefit of social support on well-being occurs through its role in other areas. Evidence supports the hypothesis that social support may produce helpful effects directly, regardless of the level of stress or disruption in a person's life (Broadhead, Kaplan, James, Wager, Schoenbach, Grimson, & Gehlbach., 1983; Fogaca, 2021; Lu & Hsu, 2013; Malinauska,2008). However, others have argued that social support acts primarily as a buffer,

protecting individuals from the harmful effects of stress (Cohen & McKay, 1984) Regardless of the mechanism of how social support operates, studies have repeatedly demonstrated a positive association between it and psychological well-being (e.g.,Chu, Saucier, & Hafner, 2010).

A number of theories have also been proposed to discuss the nature of support. Thoits (1986) suggested that social support operates primarily as "coping assistance." Specifically, Thoits hypothesized that the deleterious impact of stressful situations is modified when other people help someone change the situation itself (e.g., providing child-care assistance to an over-worked parent), alter the meaning it has (e.g., helping a friend see a stressful situation from a different, less distracted perspective), and/or change the individual's affective response to the stressor (e.g., providing someone who is anxious and cannot sleep with sleeping pills).

Finally, in terms of the curative effect of support, the most influential theoretical perspective on social support, the Stress-Buffering Model (Dean & Lynn, 1977), hypothesizes that the support reduces the effects of stressful life events on health (i.e., acts as a stress buffer) through either the supportive actions of others (e.g., advice, reassurance) or the belief that support is available. Supportive actions are thought to enhance coping performance, whereas perceptions of available support lead to appraising potentially threatening situations as less stressful. Support may play a role at several different points in the causal chain linking stressors to illness. First, the belief that others will provide necessary resources may redefine the potential for harm posed by a situation and bolster ones' perceived ability to cope with imposed demands, thereby preventing a particular situation from being appraised as highly stressful. Second, support beliefs may reduce or eliminate the affective reaction to a stressful event, dampen physiologic responses to the event, or prevent or alter maladaptive behavioral responses. The availability of persons to talk to about problems has also been found to reduce the intrusive

thoughts that act to maintain chronic maladaptive responses to stressful events (Brooks, Rubin, & Greenberg, 2019; Cohen, 2000; Dunn, Occhipinti, Campbell, & Ferguson, 2011; Lepore, Silver, Wortman, & Wayment, 1996).

Alternatively, social support might protect persons against the adverse effects of stressors by leading them to interpret stressful events less negatively. According to Lazarus and colleagues' influential theory of stress and coping, how people interpret situations (appraisals) is very important in determining and event's stressfulness (Lazarus, 1966; Lazarus & Folkman, 1984). There are two types of appraisals, primary and secondary. Primary appraisals involve judgments of whether the event is a threat. These judgments involved questions such as "Am I in trouble?" on dimensions such as harm-loss, threat, or challenge. Secondary appraisals involve evaluations of personal and social resources available to cope with the event. Such evaluations involve the questions such as "What can I do about it?" More negative appraisals are hypothesized to lead to greater emotional distress.

Cohen and Syme (1985), were some of the earliest researchers to address the question on the curative effect of support. examining the impact of social support on disease etiology and recovery from illness. Social support is conceptualized by these authors as a positive factor that aids in the maintenance of health as well as in disease recovery. There have been several proposals regarding the mechanism of social support's positive effects on health. By enhancing self-esteem and positive feelings, social support may indirectly strengthen the immune system, thereby speeding recovery from illness and reducing susceptibility to disease (Cohen & Syme, 1985; Jemmot & Locke, 1984). Supportive relationships with others may also aid in health maintenance and recovery by helping to promote healthy behaviors (e.g., compliance with prescribed health care, smoking cessation, ets.; Brownell & Shumaker, 1984). Antonovsky

(1979) proposed that resources such as social support ca increase a person's resistance to stress, paving the way for research on social support as a moderating effect. In this view, social support is thought to protect the individual from the potential harmful effect of exposure to the stressor. Research has attempted to determine if social support acts as a moderator by producing a healthier environment, by decreasing events appraised as threatening or harmful, or both. When social support was measured on the basis of perceived support from spouse/partner, family, and friends, Russell and Taylor (2009) found that support buffered he relationship between living alone and depression for 947 Hispanic and non-Hispanic older adults in an urban setting

Social Support in Athletes

In sport contexts, athletes encounter a great deal of pressure and stress in competition. These stressful experiences can have maladaptive effects on athletes' well-being, such as burnout (Raedeke & Smith 2001) or injury (Rees et al. 2010), and can even lead them to drop out of their sport (Sarrazin, Vallerand, Guillet, Pelletier, & Cury, 2002). Thus, studies on athletes' well-being often focus on understanding how to prevent ill effects, such as anxiety, burnout, and stress. More recently, however, researchers have shifted from a preventative approach, whereby aspects of preventing anxiety and burnout are the focus, to a focus on what facilitates well-being. Based on the core idea of positive psychology (Seligman & Csikszentmihaly, 2014), recent studies have taken a promotive perspective to investigate how positive traits, attitudes, beliefs, and experiences can improve athletes' well-being (Gagne´ and Blanchard 2007; Ng, et al. 2012). Several researchers have adopted an interpersonal perspective to understand athletes' well-being (Jowett 2005; Rees & Hardy 2000; Reinboth & Duda 2006). These studies suggest that support from others plays an important role in enhancing athletes' well-being, because athletes can rely on external support to overcome difficulties in achieving their goals. A similar idea has been

advocated in self-determination theory (Reis et al. 2000), which suggests that, in addition to self-initiated competence and autonomy, support from others can fulfill the need for relatedness, which contributes to an individual's well-being.

Research has started to demonstrate relationships between social support and athletes' mental health as represented across multiple constructs (Clement & Shannon, 2011; Bruner, McLaren, Swann, Schweickle, Miller, & Benson, & Vella, 2020; Hassell, Sabiston, & Bloom, 2010; Kristiansen & Roberts, 2010; Malinauska, 2010; Malinauskas & Malinauskas, 2018; Rees, Mitchell, Evans, & Hardy, 2010; Thompson, 2010; Yang, Peek-Asa, Lowe, Heiden, & Foster, 2010). For example, Hagiware, Iwatsuki, Isogai, Van Ralte, and Brewer (2017) surveyed 204 American college student-athletes (105 men, 99 women; *M* age = 20.24 years) from NCAA Division I and II universities to assess the relationship between social support and mental health problems. Specifically, participants provided their perceptions on their received social support from teammates, their provision of social support to teammates, and measures of depression and sport helplessness. The authors conducted a series of correlations among the variables, finding that, for female athletes, there were significant inverse associations between receiving support and depression and sports helplessness, and between providing support for teammates and depression and sport helplessness. For male athletes, neither receiving nor providing social support were significantly correlated with depression or sport helplessness.

Researchers also have examined how interventions could promote social support to help student-athletes cope with the demands of sport. For example, Fogaco (2021) designed a combined performance and mental health intervention that taught mental skills to and increased social support of college student-athletes, with the overall goal of improving mental health. A total of 88 student athletes from five NCAA Division I teams participated in the study. Two

teams (n = 28) participated in the intervention, and three teams (n = 60) were in the control group to). Prior to the interventions, athletes were assessed on their use of athletic coping skills (i.e., coping with adversity, coachability, concentration, confidence and achievement motivation, goal setting and mental preparation, peaking under pressure, and freedom from worry), as well as measures of depression, anxiety, and quality of life. The intervention consisted of five sessions for the teams, four sessions for the team captains, and two sessions for the coaches. Each of the team sessions was focused on a topic (i.e., changing attributions and self-talk or mindfulness and acceptance). The four captain's sessions focused on leading by example, being a vocal leader, and social support. The two sessions with coaches focused on their communication with athletes regarding mental-health related issues and how this leads to better performance outcomes. After the interventions were completed the teams completed the same questionnaires, except for the demographics but with the addition of the feedback questionnaire. Through an ANCOVA (controlling for pre-test scores) the authors found that the intervention group had a significantly higher mean score on the ACSI-28 compared to the control group, F (1, 70) = 9.069, p = .004, $\acute{\eta}^2_p$ = .115. For anxiety, the intervention group had significantly lower levels than the control group at the end of the intervention, F (1, 79) = 5.017, p = .028, $\acute{\eta}^2_p$ = .060. For depression and quality of life, respectively, there were no significant group differences, F (1, 79) = 3.339, p =.071, and F (1, 81) = 2.433, p =.123. Overall results indicated that the intervention helped student-athletes improve their psychological skills, including social support, and decrease their level of anxiety.

DeFreese and Smith (2014) utilized a longitudinal approach to examine perceptions of social support as temporal contributors to athlete psychological health across a competitive sport season. First, they examined social support and negative social interactions as potential

moderators of the relationship of perceived sport stress with athletes' burnout over an entire athletic season. Secondly, they examined social support and negative social interactions as potential moderators of the relationship of athletes burnout with athlete-well-being over an athletic season. Data were collected from 429 collegiate athletes at Time 1, 292 athletes at Time 2, 196 at Time 3, and 163 at Time 4. Multi-level linear modeling indicated that there was no evidence for either social support or negative social interactions to moderate the stress-burnout or burnout-well-being relationships. Based on their final fixed effects model, the authors found that social support was significantly, negatively associated with global burnout and emotional/physical exhaustion. Further, social support was positively associated with well-being. The results from this study indicate that individual contributions (but not moderating effects) of social support and negative social interactions to athlete psychosocial experiences over time when accounting for conceptually important variables.

Research on social support and sport injury, another example of a life stressor, suggest that perceptions of social support influence athletes' psychological reactions, as well as their rehabilitation adherence (Cupal & Brewer, 2001; Scherzer, Brewer, Cornelius et al, 2001). Adequate social support can positively influence the way athletes cope with and rehabilitate from injuries (Bianco, 2001; Johnson & Carroll, 1998; Udry, 1996). Conversely, injured athletes who reported a lack of social support indicated higher levels of depression, and athletes who were dissatisfied with social support reported increased levels of psychological distress (Brewer, Petipas, Van Rallte, Sklar, & Ditmar, 1995). Clement & Shannon (2011) examined injured athletes' perceptions regarding satisfaction, availability, and contribution for eight types of social support (listening support, emotional support, emotional-challenges support, reality-confirmation support, task-appreciation support, task-challenge support, tangible support, and personal

assistance). A total of 49 injured college student-athletes (27 men, 22 women, *M* age = 20.1 years) from a variety of sports, including football, volleyball, basketball, baseball, and soccer, were assessed via the Social Support Survey. Most participants were experiencing a severe injury (n = 22), whereas others described their injury as moderate (n = 17) or minor (n = 10). Results indicated no significant interactions between type of support and source of support (i.e., coaches, teammates, or athletic trainers); however, the main effects for both source and type of support were significant across all three dependent variables: satisfaction with social support, availability of social support, and contribution of social support all contributed to higher levels of well-being ($F_{1.72, 82.58}$) = 9.64, $P < .001$, $\eta^2 = .167$. Similar, results were found by Yang et al. (2010), who. surveyed 256 NCAA Division I athletes (167 men, 89 women, *M* age = 20 years old) from 13 sports teams throughout an 8-month period to assess the impact of social support before and after injury. Results indicated that although male athletes reported more sources of social support (e.g., family, friends, coaches, athletic trainers), females were more satisfied with the support received for before and after injury. Furthermore, results indicated that female college athletes tend to rely more on friends and family for social support when recovering from injuries more so than males do. Collectively, these findings suggest that female athletes may particularly benefit from having social support, and that examining perceived support from multiple sources is important.

In line with the hypothesis that social support can also have an indirect effect on psychological well-being, researchers have examined various constructs, including hope and gratitude, through which social support may have a positive effect on well-being (Lu & Hsu, 2013; Chen, 2013). Lu & Hsu (2013) further explored how social support impacts postinjury beliefs and well-being in athletes. A total of 224 Taiwanese collegiate athletes (104 men, 120

women), representing 8 different sports (track and field, basketball, volleyball, tae kwon do, Chinese martial arts, judo, table tennis, and "other"), were assessed for their appraisals of rehabilitation treatment, levels of hope, subjective well-being (i.e., joyfulness, pleasantness, satisfaction, pride, fearfulness guilt, anger, sadness), and perceived social support. In terms of predictive value of hope and social support on rehabilitation beliefs, results of the study indicated that hope and social support were significant and accounted for 15.3% of the variance. Regarding well-being, the main effects of both hope and social support were significant. The results of this study indicate that social support predicted injured athletes' subjective well-being.

Self-Compassion

Building off the general definition of "compassion," self-compassion entails three main components: (a) self-kindness – being kind and understanding toward oneself in instances of pain or failure rather than being harshly self-critical, (b) common humanity – perceiving one's experiences as part of the larger human experience rather than seeing them as separating and isolating, and (c) mindfulness – holding painful thoughts and feelings in balanced awareness rather than over-identifying with them (Neff, 2003b). Self-compassion is distinct from self-pity (Goldstein & Kornfield, 1987); when individuals feel pity for others they typically feel highly separate and disconnected from them ("thank goodness it's your problem not mine"), whereas in the case of compassion individuals feel connected to others and are aware that suffering is something all humans experience ("there but for fortune go I"). Similarly, when individuals feel self-pity they become immersed in their own problems and forget that others have similar problems. They ignore their interconnections with others, and instead feel that they are the only ones in the world who are suffering. Self-pity tends to emphasize egocentric feelings of separation from others and exaggerate the extent of personal suffering. Self-compassion, on the

other hand, allows one to see the related experiences of self and other without this type of distortion or disconnection. In addition, while experiencing self-pity, individuals typically become carried away with, wrapped up in, or completely absorbed by their own feelings, a process called "over-identification." When individuals over-identity, they become so immersed in their current emotional reactions that other aspects of the person, including those capable of alternative emotional responses or interpretations of events, are inaccessible (Bennet-Goleman, 2001). In contrast, self-compassion requires individuals to not over-identify so that there is "mental space" in which to extend oneself kindness and recognize the broader human context of one's experience (Golstein & Michaels, 1985; Scheff, 1981). At the same time, self-compassion requires that individuals not avoid or repress their experiences; thus, a compassionate attitude towards oneself requires the equilibrated mental process known as mindfulness (Bennett-Goleman, 2001; Gunaratana, 1993; Kabat-Zinn, 1994; Langer, 1989).

Self-compassion is also distinct from self-esteem. Many have criticized self-esteem, which stems from evaluations of self-worth, as a measure of psychological health due to the inherent judgments and comparisons (Baumeister, Smart, & Boden, 1996; Damon, 1995; Harter, 1999; Hewitt, 1998; McMillan, Singh, & Simonetta, 1994; Seligman, 1995; Swann, 1996). Self-esteem asks "how good am I" in comparisons to set standards in domains of perceived importance. Self-esteem also involves looking into other evaluations of the self (e.g. "How much do others approve of me") in order to determine how much one likes the self. Social comparison is an additional determinant of self-esteem (Aspinwall & Taylor, 1993; Beach & Tesser, 1995; Buunk, de Jonge, Ybeme, & de Wolffe, 1998; Deci & Ryan, 1995; Suls & Wills, 1991), so that the self is evaluated in relation to the performance of others. Although low self-esteem has been linked to negative outcomes, such as a lack of motivation, depression, and suicidal ideation

(Harter, 2006), it is less clear that raising self-esteem would lead to psychological health. First, self-esteem has proven to be resistant to change (Swann, 1996), so raising it may be difficult. Second, high self-esteem may have negative correlations as well. Although the results are mixed, some researchers have argued that an over-emphasis on evaluation and liking the self may lead to narcissism, self-absorption, self-centeredness, and a lack of concern for others (Damon, 1995; Seligman, 1995). Attempts to protect or enhance self-esteem may lead to a distortion in self-knowledge, making it difficult to identify areas in which change or growth is needed (Baumeister, Heatheron, & Tice, 1993; Sedikides, 1993; Taylor & Brown, 1988). The desire for high self-esteem may result in a willingness to see the worst in others as a means of rating the self more favorably in comparison (Crocker, Thompson, McGraw, & Ingerman, 1987; Feather, 1994). In fact, high, rather than low, self-esteem has been associated with increased prejudiced toward out-groups (Aberson, Healy, & Romero, 2000; Allport, 1954; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) and increased violence towards those that threaten the ego (Baumeister et. al, 1996). Self-compassion entails the psychological benefits of self-esteem, but with fewer of the pit falls. In terms of the impact that self-compassion has on life stressors and psychologically well-being, self-compassion could have an influence at various points in the stress and coping process, including, the choice and options of coping efforts (e.g., recognizing a common humanity in struggles may lead individuals to reach out to others for support), coping effectiveness, or as a coping resource or strategy (e.g., being less critical or harsh on self; Allen & Leary, 2010).

In developing the Self-Compassion Scale (SCS; Neff, 2003a), Neff first surveyed 391 undergraduate students (166 men, 225 women, *M* age 20.91 years) in measures of anxiety, depression, emotional intelligence, and life satisfaction. As was hypothesized, the SCS was

related significantly to the mental health outcomes, specifically significant negative correlation with depression, anxiety, and neurotic perfectionism, and a positive correlation with life satisfaction. Similar results were found with a second group of undergraduate students from the same university (232 total, 87 men, 145 women, *M* age 21.31 years). The SCS was found to have a negative correlation with depression, $r = -.55$, $p < .01$, and with anxiety, $r = -.66$, $p < .01$. Moreover, when partial correlations were calculated that controlled for the variation in outcomes due to variation in self-esteem levels (as measured by the Rosenberg Self-Esteem Scale), self-compassion was still associated significantly with depression, $r = -.34$, $p < .01$, and anxiety, $r = -.42$, $p < .01$. In both studies, compared to men, women had significantly lower overall self-compassion scores, significantly higher levels of isolation, over-identification, and self-judgment, and significantly lower levels of mindfulness. These results are consistent with past findings that female athlete tend to be more critical of themselves and to ruminate on their negative feelings more than males do (Leadbeter et al., 1999; Nolen-Hoeksema, Larson, & Grayson, 1999). Unfortunately, this tendency on the part of women has also been associated with a higher incidence of depression (Nolen-Hoeksema, 1987). Interestingly, women were *not* less likely than men to be kind and gentle to themselves or to see their experience as part of common humanity. In a 2015 meta-analyses of 71 articles examining gender differences in self-compassion, Yarnell, Stafford, Neff, Reilly, Knox, and Mullarkey demonstrated that males had slightly higher levels of self-compassion than females, with a small effect size observed ($d = .18$). Given social norms requiring males to be tough and independent (Deaux & Kite, 1993), perhaps it is not surprising that males do not evidence a greater sense of kindness and connectedness in their self-attitudes than women.

Self-compassion has been related to many desirable psychological outcomes. Higher

levels of self-compassion have been associated with greater levels of happiness, optimism, life satisfaction, body appreciation, perceived competence, and motivation (Hollis-Walker & Colosimo, 2011; Neff, Hsieh & Dejitterat, 2005; Neff, Pisitsungkagarn & Hsieh, 2008; Neff, Rude, & Kirkpatrick, 2007;) as well as lower levels of depression, anxiety, stress, rumination, body shame and fear of failure (Daye, Webb & Jafari, 2014; Finlay-Jones, Rees, & Kane, 2015; Neff, Hseih, & Dejitthirat, 2005; Raes, 2010). For example, Hall, Row, Wuench, and Godley (2013) examined the relation of self-compassion and psychological well-being among 182 college students (41 men, 141 women). For this study, researchers split the Self Compassion Scale into three composites that correspond to the three components of self-compassion: composite 1 (self-judgment minus self-kindness), composite 2 (isolation minus common humanity), and composite 3 (over-identification minus mindfulness). Correlations demonstrated that depressive symptomatology was significantly correlated with all three SC composites, with higher depressive scores being negatively correlated with composite 1 (r = .66, p <.001), composite 2 (r = .66, p <.001), and composite (.3 r = .66, p <.001). A regression analysis with depressive symptomatology as the outcome variable and the three composite scores as predictors was significant, R = .69, F (3, 176) = 52.33, p <.01. The multiple regression analysis revealed that composite 1 (β = .44, p <.01) and composite 2 (β - .19, p <.01) had significant unique effects, but composite 3 did not. Results also indicated that stress was significantly correlated with the three composites. The multiple regression model was also significant, R = .55, F = (3, 178) = 25.99, p < .01. Composite 1 (β =.22, p = .04) and 3 (β = .33, p <.01) has significant unique effects, but composite 2 did not. Collectively, individuals who engaged in more self-judgmental thoughts and isolation were more likely to indicate depressive symptomatology. These individuals may be more likely to ruminate over their own perceived deficiencies and

isolate themselves from others (Martell, Dimidjian, & Herman-Dunn, 2013; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). These negative processes can play a crucial role in the development and maintenance of depressive symptoms. In terms of stress, It may be that increased self-judgment in relation to self-compassion lowers an individual's ability to cognitively engage in positive coping strategies in order to effectively deal with stress. The I–CH composite indicated that as isolation increased in response to common humanity, the ability to cope effectively with stressors diminished. Research has shown the importance of social support in aiding in effective coping mechanisms when faced with and recovery from stress (Fredrickson, 1998, 2001; Tugade & Fredrickson, 2004).

Higher scores on the SCS have also been associated with healthier physiological responses to stress, such as salivary cortisol, blood pressure, heart rate, stress-induced inflammation, heart-rate variability, and sympathetic nervous system activation (Bluth, Roberson, Gaylord, Faurot, Grewen, Arzon, & Girlder, 2015; Breines, Thomas Gianferante, Hanlin, Chen, & Rohleder, 2014; Breines, Toole, Tu, & Chen, 2014; Daye et al., 2014; Finlay-Jones et al., 2015; Raes, 2010). For example, Dunne, Sheffield, & Chilcot (2018) tested the hypothesis that self-compassion predicts better physical health. Using self-report measures, 147 adults (28 men, 119 women, *M* age = 32.28) reported the frequency and severity of physical health symptoms (e.g., coughing, sleeping problems, headaches, muscle soreness, etc.) and health promoting behaviors. Results indicated that self-compassion scores were positively associated with health-promoting behaviors ($R^2 = .26$, $p < .01$) and negatively associated with physical health symptoms ($R^2 = 0.27$, $p < .01$). The direct effect of self-compassion on physical symptoms, controlling for health-promoting behaviors, was significant, $b = -8.98$, $t = -2.46$, $p = .02$, with 13.7% of the variance in physical symptoms explained by health-promoting behaviors

and self-compassion combined. The total effect of self-compassion on physical symptoms, including health-prompting behaviors, was also significant, b = -12,14, t = -3.33, p = .02, indicating that health promoting behaviors partially mediating the relationship between self-compassion and physical symptoms.

Self-compassion is also related to many other positive psychological constructs, including optimism, wisdom, curiosity, and personal initiative (Neff et al., 2007b). In addition to correlational studies, experimental manipulation of self-compassion has been shown to increase positive affect and decrease negative feelings about the self when compared to controls (Leary et al., 2007). Therapeutic interventions designed to elevate self-compassion have been shown to produce decreases in self-criticism, depression, rumination, and anxiety (Neff et al., 2007a).

Self-compassion appears to facilitate coping by moderating people's reactions to negative events. In a series of experimental studies, Leary et al. (2007) first assessed 59 male and 58 female undergraduate students on the worst things that happened to them throughout their week that was their fault, and the worst things that happened that were not their fault; the researchers found that that self-compassion was consistently related to participants reactions to the worst events that happened to them. Specifically, individuals with higher levels of self-compassionate tried to be kind to themselves and make themselves feel better whereas those with lower levels of self-compassion indicated that they were hard on themselves following negative events. In their second study, Leary et al. (2007) sought to compare the effects of self compassion with those of trait self-esteem and narcissism. The researchers had participants (123 students, 70 men and 53 women) provide responses to three hypothetical scenarios involving a) getting a poor grade on an important test, (b) being responsible for losing an athletic competition for their team, and (c) forgetting their part while performing on stage, causing a musical or dramatic performance to

come to an embarrassing halt. A simultaneous multiple regression in which self-compassion, self-esteem, and narcissism were entered indicated that self-compassion accounted for significantly more unique variance in negative affect than self-esteem or narcissism. Whereas self-compassion accounted for unique variance in emotion on all three scenarios, self-esteem did not account for unique variance on any scenario, and narcissism accounted for unique variance on only one. Further, self-compassion was able to uniquely predict emotional reactions to scenarios, as well as thoughts that reflected less catastrophizing, less personalizing, and greater equanimity, whereas narcissism and self-esteem did not.

Whereas self-compassion appears to loosen the grip of negativity, self-compassion does not eliminate or push away negative emotions altogether. In fact, more self-compassionate individuals are less likely to suppress unwanted thoughts and emotions than are those with less self-compassion (Neff, 2003a), and are more likely to acknowledge and validate the importance of their emotions (Leary et al., 2007; Neff, Hseih, & Dejitterat, 2005). For example, in one study, Neff eta al. (2007) gave participants (91 undergraduates, 22 men and 69 women, *M a*ge = 20.9 years) a mock job interview that asked them to "describe their greatest weakness." They found that self-compassion was associated with significantly less anxiety after considering one's greatest weakness (r = -.21, p< .05). This association was remained significant even after controlling for initial levels of negative affect (r = -.23, p< .05), and for self-esteem (r = -.21, p< .05). In contrast, self-esteem was not significant related to anxiety after considering the personal weaknesses (r = -.11, p =.32), even after controlling for self-compassion, (r =.10, p = .36). These results confirm that self-compassion helps to buffer against anxiety in self-evaluative situations. In contrast, self-esteem does not appear to protect against self-evaluative anxiety. Individuals with greater self-compassion tended to use language that indicated connection rather than

isolation when writing about their weakness. For example, they used fewer first-person singular pronouns such as "I," in favor of first-person plural pronouns such as "we," and made more social references to friends, family, and others. These findings suggest that self-compassion may decrease maladaptive emotional reactions because weaknesses feel less threatening when considered in the light of the shared human experience.

Research suggests that self-compassion is not just a pre-existing personality trait, but can be trained and subsequently enhance psychological well-being. There are several studies that indicate relatively brief training in self-compassion can be highly effective. For example, Smeets, Neff, Alberts, & Peters (2014) developed a three-week self-compassion intervention for 52 college students (*M*age = 19.9 years). The interventions involved a combination of didactic discussions about self-compassion practices, such as putting one's hand on one's heart in times of distress, and engaging in various exercises, such as focusing on identifying the inner critic and finding compassionate ways to motivate the self. At the end of the intervention, students in the experimental condition showed significantly greater increases in self-compassion, mindfulness, optimism, self-efficacy, and decreases in rumination (all *p*s < .05) in comparison to a time-management control group. In comparison to the time management control group, the self-compassion intervention led to significantly greater gains in self-compassion, with Cohen's *d* indicating a large effect size (1.19). In addition, the self-compassion intervention group showed significantly greater gains in mindfulness int terms of Mindfulness Without Judgment (Cohen's *d* = *.70*) and Nonreactivity to Inner Experience (Cohen's *d* = 1.20) and optimism (Cohen's *d* = *.66*). The self-compassion group also demonstrated greater gains in self-efficacy compared with the control group (Cohen's *d* = *.52*). Last, the self-compassion group evidence significantly greater decreases in rumination (Cohen's *d* = *.70*) than the control group. Group differences were

not significant for life satisfaction, connectedness, positive and negative affect, or worry. In addition, a series of linear regressions demonstrated that increased self-compassion significantly predicted changes in mindfulness (i.e., acceptance without judgment and nonreactivity to inner experience), life satisfaction, connectedness, optimism, self-efficacy, rumination, and worry. Overall these results suggest that a short-term training in self-compassion can enhance psychological well-being in several ways.

Other researchers have also found evidence for the positive impact of self-compassion training (Albertson, Neff, and Dill-Shackleford, 2014; Shapira & Mongrain, 2010). Shapira and Mongrain (2010) examined the impact of a self-compassionate letter-writing intervention that involved writing a paragraph about a recent difficult life situation in kind, understanding way to oneself, in the way a good friend would do. After seven days of letter writing, they found that this activity not only decreased depression for three months, but it also helped increase happiness levels for six months. Similarly, Albertson, et al. (2014) conducted a study among women with body image concerns that involved their listening to guided self-compassion meditations for three weeks. They found that the intervention produced significant decreases in body dissatisfaction, body shame, and contingent self-worth based on their appearance, as well as increases in self-compassion and body appreciation compared to waitlist control group. All gains were maintained at a three-month follow up. These results indicate that even brief self-compassion interventions can be effective in teaching self-compassion skills and enhancing well-being.

Self-Compassion in Athletes

Self-compassion has also been studied with athlete samples, though primarily with female-identifying athletes (Mosewich, Crocker, Kowalski, & DeLongis, 2013; Mosewich,

Kowalksi, Sabiston, Sedgiwck, & Tracy, 2011; Wilson, Bennett, Mosewich, Faulker, & Crocker, 2019). For example, Mosewich et al. (2011) explored relations among self-compassion, proneness to self-conscious emotions (i.e., shame, guilt-free shame, guilt, shame-free guilt, authentic pride, and hubristic pride), and potentially unhealthly self-evaluative thoughts and behaviors (i.e., social physique anxiety, obligatory exercise, objectified body consciousness, fear of failure, and fear of negative evaluation) with 151 female athletes (*M* age = 15.1 years old) who had been involved in sport for at least one year. They found that self-compassion was negatively related to shame proneness, guilt-free shame proneness, social physique anxiety, objectified body consciousness, fear of failure, and fear of negative evaluation. Further, self-compassion explained variance beyond self-esteem on body proneness, guilt free shame proneness, shame-free guilt proneness, objectified body consciousness, fear of failure, and fear of negative evaluation. These results indicate that self-compassion may be an important resource for young women athletes to help them navigate sport-related stressors.

Mosewich et al. (2013) went further and implemented a self-compassion intervention to examine the effects of the intervention on negative cognitive states and self-compassion in female varsity athletes. A total of 51athletes who self-identified as self-critical were randomly assigned to either a self-compassion intervention ($n = 29$) or an attention control group ($n = 22$). The self-compassion intervention consisted of a psychoeducation session and writing components completed over a 7-day period. Measures of self-compassion, state self-criticism, state rumination, and concern over mistakes were collected before the intervention, one after the intervention, and at a 4 week follow up. A mixed factorial MANOVA demonstrated moderate to strong effects for the intervention at posttest and follow-up (Wilks's $\Lambda = .566$, $F\ (8, 42) = 4.03$, $p < .01$, $\eta^2 = .43$). In demonstrating the effectiveness of the self-compassion intervention in

managing self-criticism, rumination, and concern over mistakes, fostering a frame of self compassion can be a potential coping resource for women athletes dealing with negative events in sports.

Wilson et al. (2019) conducted two semi-structured interviews with female athletes to better understand the interrelationship of self-compassion and mental toughness in helping athletes cope with sport-related stressors. Although self-compassion and mental toughness share many similarities, and both may be important for elite athletes' coping processes, the two processes also share a key difference that may render key differences that render them incompatible. It is possible that athletes who use self-compassion may not have the self-critical edge needed to be considered mentally tough; it is also possible that perceptions of mental toughness and being hard on oneself could prevent an athlete from using self-compassion. Thus, Wilson et al. (2019) set out to explore elite female athletes' perceptions, experiences, and compatibility of self-compassion and mental toughness in the pursuit of athletic achievement. Seven female athletes (*M* age = 28.3 years old who had competed at a major championship (Olympic Games or the World Championships), and who were currently still involved in international competition, were interviewed twice, with a total of14 interviews. A thematic analysis revleaed three overarching themes to describe how athletes perceived and experienced mental toughness and sel-compassion, including (1) mental toughness as critical for coping with sport-related adversity; (2) self-compassion as critical for coping with sport-related adversity, and (3) self-compassion and mental toughness as compatible. In terms of the third theme, athletes identified perceptions of self compassion and mental toughness as contextual, self-compassion as critical to developing mental toughness, and mindfulness as a key to developing and maintaining self-compass and mental toughness. One participant analogized the two

construct as a zipper: although self-compassion and mental toughness are different processes, if they are used in an effective balance, they have the potential to create optimal mind sets for coping with sport-related difficulties and achieving athletic success. Whereas athletes reported that mental toughness was important for difficult physical pursuits, maintain focus and persevering despite difficulty, self-compassion was equally important for self-care, re-appraisal, and moving forward after difficulty. The two processes complement each other in a way that creates a balanced perspective between the relentless, evaluative, and self-critical pursuit of elite athletic achievement and relating to oneself as the object of care without self-condemnation or over-identification in the face of sport-related difficulty. Though resilience and mental toughness are conceptually distinct, it may be that resilience and self-compassion work in similar ways. For example, self-compassion can promote perseverance towards goals and prevent giving up by enable an individual to accept, learn, and grow from adversity rather than over-identify with it (Neff et al., 2007; Neff & McGeehee, 2010); using self-compassion in this way may help athletes shift into a resilience mindset and maintain goal-directed pursuits. More research needs to be to to unpack what an effective and complementary balance self-compassion and resilience entails and its implication for athlete well-being, particularly during the never-before experienced stressor of being a collegiate student-athlete during COVID-19.

Self-compassion when applied to athletes is expected to also have an important effect on their subjective well-being. According to relevant study (Mosewich, Kowalksi, Sabiston, Sedgwich, & Tracy, 2011), there is a negative relationship between self-compassion and female adolescent athletes' dysfunctional emotions such as shame or fear of failure. Also, Mosewich (2013) found that self-compassion of athletes is negatively related to their negative affect and excessive perfectionism. Thus, these studies supported that it would be beneficial for athletes to

have self-compassionate attitude to cope with negative emotions and behaviors (Mosewhich, Vangool, Kowalkski, & McHugh, 2009). By the implications from these studies, it can be inferred that athletes may experience a sense of shame, pain, and rage when they regard their defeat in competition as their own fault or criticize themselves with failure. On the other hand, athletes with a high tendency for self-compassion would acknowledge what had happened, and their emotions, but would not attach to them nor be self-critical, thus having a higher sense of well-being by approaching the defeat from a more objective and balanced viewpoint and with greater mindfulness. Furthermore, self-compassion may be even more important to psychological well-being when athletes experience uncontrollable events, such as the COVID-19 pandemic (Leary et al., 2007). For example, Li, Wang, Cai, Sun, & Lio. 2020) found that self-compassion was significantly positively related to life satisfaction for individuals during a two-week quarantine period due to COVID-19. Consistent with the conceptualization of self-compassion, individuals with higher levels of self-compassion may generate more care and emotional warmth towards themselves during the quarantine period (Neff, 2003; Soysa & Wilcomb, 2015, and their sense of common humanity may lead them to treat pandemic and quarantine as a universal event (e.g., recognize that all student-athletes had their sport seasons canceled) rather than personal misfortune. Moreover, in the face of setback self-compassion is positively associated with low levels of avoidance and rumination (Neff et al. 2005; Leary et al., 2007; Breines & Chen, 2013) and positively associated with personal initiative and an approach-orientation to problems (Zhang & Chen, 2016), which may mean that self-compassion may help athletes stay active and motivated during the world pandemic.

Resilience

Resilience is important to consider as it is one of the most significant variables impacting

the quality of life of survivors following a disaster (Xu, et al.,zime 2013). Numerous definitions of resilience have been proposed by the psychology research literature based on alternative conceptualizations of resilience as either a trait or an active process (Fletcher & Sarkar, 2012, Jacelon 1997). Conceptualizing resilience as a process recognizes it is a capacity that develops over time in person-environment interactions (Egeland, Calrson, & Sroufe, 1993). In this view, resilience has been defined as a "dynamic process encompassing positive adaptation within the context of significant adversity" (Flach, 1988; Luthar, Circchetti, & Becker, 2000). The process is cyclical, beginning with a stress point that disturbs the homeostatic process of the individual. leading to disruption in normal routines, and, ultimately, chaos. In the initial acute phase, energy is directed at minimizing the impact of the stress and stressor. In the re-organization phase, a new reality is faced and accepted in part or in whole, leading to reintegration and a new homeostatic structure at a higher level of functioning (Flach, 1988; Fine, 1991).

Conversely, conceptualized as a trait, resilience is thought of as a constellation of characteristics that enable individuals to adapt to the circumstances they encounter (Connor & Davidson, 2003). These individual differences are commonly referred to as protective factors in the resilience literature (Luthar, 2006; Masten & Reed, 2002, Rutter, 2000). One of the earliest studies cited in most of the resiliency literature are two longitudinal studies (Werner, 1995; Werner & Smith, 1992). Werner's study, which began in 1955, examined the multiracial population of children designated to be high risk due to four major categories of environmental factors. Approximately 200 of the total 700 children were at risk because of perinatal stress, poverty, daily instability, and serious parental mental health problems. However, despite these risk factors, 72 of the 200 children were doing very well. Werner categorized the resilient qualities that helped these young people to thrive in the face of high-risk environments; these

personal characteristics included being robust, socially responsible, adaptable, tolerant, achievement oriented, a good communicator, having a good self-esteem, and identifying as female. Werner also noted that a caring environment both inside and outside the family helped young people thrive in the face of adversity. Building on findings from Werner and Smith (1955, 1982), a number of studies have further explored qualities associated with those who were resilient in the face of adversity; these qualities included easy temperament, identifying as female, a positive school climate, self-mastery, self-efficacy, planning skills, and a warm, close personal relationship with an adult (Rutter, 1985; 1987); effectiveness, high expectencies, positive outlook, self-esteem, internal locust of control, self-discipline, good problem-solving skills, critical thinking skills, and humor (Garmezy, 1991; Garmezy, Masten, & Tellegen, 1984); and receiving external support, feeling a sense of empowerment, knowing boundaries and expectations, educational commitment, positive values, social competencies, and positive self-esteem, sense of purpose, and internal locust of control (Benson, 1997). More recently, resilient qualities have been identified in the field of positive psychology (Seligman & Csikszentmihalyi, 2000). A special issue of the *American Psychologist* even described what the article termed resilient qualities, including: happiness (Buss, 2000), subjective well-being (Diener, 2000), optimism (Peterson, 2000), faith (Myers, 2000), self-determination (Ryan & Deci, 2000; Schwarz, 2000), wisdom (Baltes & Staudinger, 2000), excellence (Lubisnki & Benbow, 2000); and creativity (Simonton, 2000). Overall, the list of traits, states, characteristics, conditions, and virtues in the literature is exhaustive.

Of interest, one study (White & Bennie, 2015) attempted to clarify how sport can cultivate resilience. The authors investigated gymnast and coach perceptions about the development of resilience through gymnastics participation. Using a qualitative design, 22

female gymnasts (*M* age = 12.5) and seven gymnastic coaches participated in semi-structured interviews. Data analysis revealed that aspects of the gymnastic environment created stress and exposed gymnasts to many challenges in training and competition. Features of the sport environment, such as interpersonal relationships and positive coach behaviors, supported gymnasts through these challenges and encouraged them to overcome failure. Gymnastics participation was perceived to develop resilience, as well as life skills, self-efficacy, and self-esteem. These findings support the notion that sport may be an appropriate avenue for the development of resilience.

Building on both the trait and process perspectives, as well as the earlier studies on resilience, Fletcher and Sarkar (2012) defined psychological resilience as "the role of mental processes and behavior in promoting personal assets and protecting an individual from the potential negative effect of stressors (p. 16)." This definition extends the previous conceptual work in this area in a number of ways. First, the focus on *psychological* resilience focuses the scope of the description to mental processes and behaviors, and excludes other types of resilience such as physical, molecular, and structural. Second, and perhaps more importantly, this definition encapsulates both trait and process conceptualizations. Regarding the trait conceptualization, the mental processes and behavior enable individuals to adapt to the circumstances they encounter (Connor & Davidson, 2003). The process conceptualization of resilience recognizes that it is a capacity that develops over time in the context of person-environment interactions (Egeland et al. 1993). Central to the definition is the focusing of the conceptual lens on the role that psychological-related phenomena play – rather than the mental processes and behaviors per se – in avoiding negative consequences. Third, the emphasis is placed on the more neutral term "stressor" rather than the negative value-laden term "adversity"

(see Fletcher & Sarkar, 2013). Fourth, the focus is on "promoting personal assets and protecting an individual from the potential negative effect of stressors" rather than on positive adaption per se, because resilience generally refers to the ability of individuals to maintain normal levels of functioning rather than the restoration or enhancement of functioning (see Bonanno, 2004).

Flach (1988, 1997) was one of the first to propose a how resiliency develops through a law of disruption and reintegration. According to Flachs' "Law of Disruption and Reintegration," "falling apart" is a necessary prelude to personal renewal following significant life events. He suggested that the temporary state of confusion and anguish was a singular opportunity to resolve old wounds, discover new ways to deal with life, and effectively recognize perspectives (Flachs, 1988). Richardson, Neiger, Jensen, and Kumpfer (1990), and later Robinson (2000) built on this idea and developed their Resiliency Model, which delineated how, when psychological homeostasis is disrupted or disorganized by life experiences (e.g., stressors, challenges, risks, etc.), the organism reintegrates in one of four ways: dysfunctionally (disruption lead to people resorting to destructive behaviors such as substance abuse), maladaptively/with loss (disruption leads to the loss of protective factors and a new, lower level of homeostasis), homeostatically (disruption leads to people remaining in their comfort zones in an effort to "just get past" the disruption), or resiliently (disruption leads to the attainment of additional protective factors and a newer, higher level of homeostasis). Richardson (2002) also emphasized the importance of environmental factors, specifically, social support from figures such as parents or friends, as both protective and supportive factors.

Galli and Vealey (2008) interviewed 10 college and professional athletes (six women, four men) about their perceptions and experiences of resilience, using Richardson (2002) and Richardson et al. (1990) resiliency model as a guiding theoretical framework. Galli and Vealey

asked about the most difficult adversities that the athletes had overcome in their sport. Four different adversities were identified: injury, performance slump, illness, and career transition. Moreover, five general dimensions emerged that described the resilience experiences of the athletes: breadth and duration of the resilience process, agitation (i.e., the use of a variety of coping strategies to deal with a wide range of unpleasant emotions and motivational struggles), personal resources (e.g., positivity, determination, competitiveness, commitment, maturity, persistence, and passion for the sport), sociocultural influences (e.g., social support and cultural factors), and positive outcomes (e.g., learning, perspective, realization of support, and motivation to help others). Based on these dimensions, they proposed a conceptual model of sport resilience, suggesting that sociocultural influences and personal resources act as protective factors important for the development and demonstration of resilience. When seen as a multifaceted process, concepts such as social support (Bianco & Eklund, 2001; Rees, Hardy, & Freeman, 2007) may be seen as specific predictors of resilient outcomes in sport.

Although there has been some support for Richardson's model in relation to health promotion (e.g., Richardson, 2016) and sport performance (Galli & Vealey, 2008), it is not without its limitations. First, it is a linear model which considers just one event as it relates to a person's experience. With people likely to experience multiple stimuli simultaneously, just as NCAA athletes during the COVID-19 pandemic, the model does not take into account the effect this has on the disruption and reintegration process. Secondly, although Richardson acknowledged that disruption results in primary emotions (e.g., fear, anger, and sadness), the model does not explain how meta-cognition and emotion affect the reintegration process (Efklides, 2008; Jager & Bartsch, 2006). The cognitive appraisal of emotions is an important aspect of the stress process, with Fletcher et al. (2006) suggesting that those who demonstrate

resilience appraise emotions as facilitative to one's functioning. Third, and perhaps most importantly, this model has a bias toward coping-oriented processes. As noted previously, there is a growing body of evidence to suggest that resilience and coping should be considered conceptually distinct constructs (Campbell-Sills, Cohan, &Stein, 2006; Major & Schmader, 1998; Van Vliet, 2008). This drawback diverts attention away from examining the true nature of resilience.

In an attempt to address the limitations of Galli and Vealey's (2008) work, several groups of researchers have employed inductive qualitative designs to explore resilience free from the constraints of a preconceived model. To illustrate, Fletcher & Sarkar (2012) developed a grounded theory of psychological resilience in Olympic champions. They interviewed twelve Olympic gold medalists (8 men and 4 women, aged between 33 to 70 years old, *M* age = 47.50 years) to explore and explain the relationship between psychological resilience and optimal sport performance. Based on themes that emerged from these interviews, Fletcher and Sarker's grounded theory of psychological resilience revealed that numerous psychological factors (a positive personality, motivation, confidence, focus, and perceived social support) protected these elite athletes from the potential negative effect of the stressors by influencing the appraisals and meta-cognitions surrounding an event. These constructive cognitive reactions promoted facilitative responses that led to the realization of optimal sport performance. further evaluates the resultant emotion as having the potential to facilitate performance. In a 2020 systemic review on the various theoretical models of resilience (de Melo & Noce, 2020), Fletcher and Sarkar's Grounded Theory of Psychological Resilience was found to be the most comprehensive and most accepted by sport psychology researchers focused on understanding athletes' resilience.

Why is it that some sport performers are able to withstand – or even thrive on – such

stress and pressure and attain peak performances, whereas others succumb to these demands and under-perform? A growing body of literature points to the evidence that managing stress is an important psychological phenomenon for attaining high levels of sport performance (Gould & Maynard, 2009; Hardy, Jones, & Gould, 1996; Krane & Williams, 2006) Although it is well-established that the ability to manage stress is important for sporting excellence, only recently have studies attempted to specifically investigate the construct of psychological resilience in athletic performers (Galli & Vealey, 2008; Gucciardi et al., 2011; Martin-Kruum, Sarazzin, Peterson, & Framose, 2003; Mummery, Schofield, & Perry, 2004; Schinke, Peterson, & Couture, 2004). Although resilience has not been extensively studied in sport, the ability to overcome adversity has been previously identified as an important element in the development of elite track and field athletes (Durand-Bush & Salmela, 2002; Gould et al., 2002; Vernacchia, McGuire, Reardon, & Templin., 2000). Similarly, Howe (1999) proposed that high achievers must maintain their motivation after experiencing failures. In their study examining the psychosocial competences associated with soccer success, Holt and Dunn (2004) examined 40 Canadian and English international youth soccer players (*M* age = 16.8 years) using grounded theory interviews. They identified resilience as one of the four factors that was central to the success in elite youth soccer, along with discipline, commitment, and social support.

In one of the initial sport-related resilience studies, researchers (Martin Krum, Sarrazin, Peterson, & Famose, 2003) examined the relationship between explanatory style and resilience in a group of recreational basketball players, using an experimental approach. Sixty-two participants (33 boys, 29 girls, M age = 14 years) who had been playing basketball for at least one year performed a basketball dribbling task, and subsequently were told that they did not perform well compared to their peers. Following failure feedback in a dribbling task, optimistic

participants were found to be more confident, to be less anxious, and to perform better than pessimistic participants, leading researchers to conclude that an optimistic explanatory style may be a key component for resilience. However, resilience as a construct was not directly measured.

Adopting a more ecologically valid approach, Mummery, Schofield, & Perry (2004) explored the impact of three protective factors (self-concept, social support, and coping style) against the potentially deleterious effects of negative performance in competitive sport. In this study, resilience was broadly defined as a set of protective factors that alter a person's response to the environment to prevent a maladaptive outcome. A total of 272 swimmers, ranging in age from 12-18 years (*M* age = 14.91 years) competing at the Australian Age National Championships were examined to discriminated between three performance-related outcomes (initially successful performance, resilience performance involving an initial failure followed by subsequent success, and non-resilient performance involving initial failure followed by subsequent failure). A discriminant functional analysis revealed two main discriminant findings, which accounted for 59.9% and 40.1% of the between group variability. The first discriminated resilient performers from the other two groups; resilient performers showed higher self-perceptions of physical endurance (*M* = 4.93), but, surprisingly, lower perceptions of perceived social support from significant others than the other two groups (*M* = 4.50). Although the finding that lower levels of perceived social support distinguished resilient performers from others is surprising, the researchers concluded that resilient performers were not lacking in perceived social support (they recorded a mean score of 4.0 out of 6), but rather the score by that group was simply lower than the other two groups. The second discriminant function separated initially successful performers from resilient and non-resilient performers. The initially successful performers scored more highly than the other groups on the coping with adversity and peaking

under pressure subscales of the Athlete Coping Skills Inventory. Participants who were initially successful in their competitive performance scored higher on the ACSI Coping With Adversity scale (M = 4.44) than did resilient (M = 4.14) or non-resilient performers (M = 4.04). In addition, the initially successful group displayed higher scores on the ACSI Peaking Under Pressure scale (M = 4.23) than did resilient (M = 4.17) or non-resilient performers (M = 3.73). Results of this study indicate that a combination of psychological measures relating to self-concept, social support, and coping skills, can successfully discriminate between those who perform well initially, those who perform poorly initially and rebound to perform well, and those who display initial poor performance and follow that with subsequent poor performance.

In addition to resilience being a necessary component for sustained sport success, resilience is also associated with psychological well-being. The impact of resilience on psychological well-being is of particular interest given the sport and non-sport related stressors associated with COVID-19. Hosseini and Besharat (2010) investigated the association of resilience with sport achievement and mental health in a sample of 139 athletes (96 men, 43 women, M age = 23 years). Each athlete completed self-report measures on resilience and mental health, and the athletes' coaches were given the Sport Achievement Scale to measure athletes' sport achievement. Results from the MANOVA indicated that resilience was positively associated with sport achievement and psychological well-being, and negatively associated with psychological distress. Resilience explained 41% of the variance in sport performance (R^2= .418), 32% of the variance in psychological well-being (R^2 = .324), and 13% of the variance in psychological distress (R^2 = .135). Overall these results indicate that resilience can predict the changes of sport performance, psychological well-being, and psychological distress. Similar results were found by Nezhad and Besharat (2010). Nezhad and Besharat (2010) investigated the

association of resilience and hardiness with sport achievement and mental health of 139 athletes (96 men, 43 women. *M* age = 23 years old). Resilience and hardiness were found to have a positive relationship with sport achievement and psychological well-being, and a negative relationship with distress. Specifically, resilience (t = 2.422, ß = 0.188) and hardiness (t = 8.171, ß = 0.634) were significantly accounted for variance of sport achievement. The results for psychological well-being showed that resilience and hardiness accounted for 35% of the variance in psychological well-being ($F = 37.891$, $p < 0.001$). Resilience ($t = 3.780$, ß = 0.376) and hardiness ($t = 2.678$, ß = 0.267) significantly accounted for variance of psychological well-being. The results for psychological distress show that resilience and hardiness accounted for 21% of the variance in psychological distress ($F = 18.426$, $p < 0.001$). Resilience ($t = 2.844$, ß = 0.313) and hardiness ($t = 1.644$, ß = 0 .251) significantly accounted for variance of psychological distress. Taken together, resilience is seen as a significant factor in psychological well-being.

Wagstaff, Hings, Larner, & Fletcher (2017) examined the stress-resilience-burnout relationship in sport coaches. A total of 91 sport coaches (69 men, 22 women, *M* age = 31.1 years) from 26 team and individual sports were assessed on their levels of organizational stress, resilience, and burnout. A moderation analysis was used to determine whether the effect of organization stressors on burnout varied in magnitude and nature as a function of resilience. Resilience was found to be significantly, negatively related to burnout ($r = -.56$, $p < .01$). Resilience also moderated the relationship between organization stressors and burnout in coaches (F (3, 85) = 28.78, $p < .001$, $R^2 = .49$). Further, for every one unit increase in resilience, there was a -.29 decrease in burnout ($b = -.29$, $t(85) = -6.78$, $p < .001$). The interaction between resilience and stressor frequency was $b = -.15$, $t(85) = 3.27$, $p < .001$. Interaction slopes for stressors predicting burnout showed that at low levels of resilience, burnout scores increased by 2.06 units

(b = 2.06, $t(85)$ = 4.27, p <.001) and for coaches reporting high levels of resilience there was a non-significant increase in burnout (b = .19, $t(85)$ = .51, p = .61). These findings provide evidence of the positive relationship between the frequency of organization stressors and burnout, and the moderating effect of psychological resilience in coaches whereby, as psychological resilience increased, there was a significantly weaker relationship between organization stressors and burnout. Although this study was conducted with sport coaches, the results can be extrapolated to be generalize to athletes as well. The examination of resilience as a moderating variable in the stress process is a step beyond understanding stress in isolation (e.g. Arnold & Fletcher, 2012, Fletcher et al, 2006; 2012); a similar approach is necessary to understand the multi-layered, complex, and constantly changing landscape of athletes during the COVID-19 pandemic.

Resilience and Self-Compassion as Mediators of Social Support

As psychosocial resources, social support, self-compassion, and resilience have empirical support for directly lessening the psychological distress individuals might otherwise experience when living through a crisis, such as the COVID pandemic. However, research also exists that suggests the effects of social support also may be mediated through resilience and self-compassion. That is, support from others may lead to more resilience, which would lead to higher levels of well-being. Fletcher and Sarkar (2012, 2013) identified social support as a variable related to more resilience. For example, Fletcher and Sarkar (2012) found that Olympic champions were protected from the pressures of elite sport by perceiving that high-quality social support was available to them. Results indicated that the perception of available support from a variety of social agents underpinned the resilience-stress-performance relationship in the word's best athletes. Going further, Xu and Ou (2014) utilized self-report psychological questionnaires

to determine the extent to which social support mediated levels of resilience and quality of life in 2080 survivors from 19 countries in the 2008 Wenchuan Earthquake area. A regression analysis indicated that the level of both resilience and quality of life improved once social support had been added to the model; the mediation effect ratios were 0.152*0.213/ 0.272 = 55.9%, bolstering the findings of previous studies across multiple cultures and countries (Bonanno, 2004; Charyton, Elliot, & Moore, 2009; Koelmel, Hughes, Alschuler, & Ehde, 2017; Ong, Vaingankar, Abdin, Sambasivam, Fauziana, Tan, Chong, Goveas, Chiam, & Subramaiam; Xu & Lia, 2008). Thus, the focus on identifying and increasing social support is of considerable importance beyond the direct impact of social support on well-being.

Social support is also mediated through levels of self-compassion. Gilbert and Proctor (2006) insisted people who had insecure attachments or stressful experiences from surrounding people tend to have more callous and critical attitudes towards themselves, while individuals having a more safe and plentiful support from others would be more generous and compassion to themselves. Also, McKay and Fanning (2000) argued that self-compassion is not an unchangeable personality trait but is, in fact, a trait individuals can acquire and promote, and Neff (2003b) argued that self compassionate attitude may be developed and influence by relationships with important others. As evidence for this, Neff and McGeehee (2010) reported that young people who received more compliments and support from their mothers had higher self-compassion than those who experienced stressful family relationships with frequent criticism by their mothers. Jeon, Lee, and Kwon (2016) examined whether self-compassion mediates the relationship between social support and subjective well-being, as perceived by athletes. Participants were 333 athletes attending high school (131 men, 58 women, *M* age = 17.9 years) or university (123 men, 21 women, *M* age = 21.5 years) that were registered with the

Korean Olympic Committee. Participants were measured on levels of self-compassion, subjective well-being, satisfaction with life, a measure of positive and negative emotions, and social support. The results indicated the difference between the partially mediating model, χ^2 (24) = 29.95, p = .186, TLI = .994, CFI = .996, RMSEA = .027, and the completely mediating model, χ^2 (25) = 39.34 p = .03, TLI = .987, CFI = .991, RMSEA = .042, was found to be significant. Thus, self-compassion partially mediated social support and subjective well-being. The direct effects pat from social support to subjective well-being (β = .24, p < .01), social support to self-compassion (β = .28, p < .01), and self-compassion to subjective well-being (β = .77, p < .01) were found to be significant. The indirect effect of social support on subjective well-being (β = .22, p < .01) was significant. The confirmation that self-compassion plays an intermediary role in the relationship between social support and subjective well=being demonstrates that self compassionate attitudes can be fostered by social support, and that, in turn, has a positive effect on an individual's subjective well-being. Through these existing studies, it is expected that self-compassionate attitudes of student athletes would be increased by sufficient support from their surroundings, and that self-compassion can influence their subjective well-being by inducing adapting coping for various stressful events.

Although a significant finding, and although the importance of support from others for enhancing athletes' well-being has been acknowledged and empirically examined (Lafrenie`re, Jowett, Vallerand, & Carbonneau, 2011), research on the factors that can help an athlete to perceive, receive, and appreciate others' support is rare. More information is needed to understand the direct and indirect effects of social support, self-compassion, and resilience on psychological distress.

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